Canadian Food Inspection Agency | Agence canadienne d'inspection des aliments

Animal Biosecurity

Canadian Beef Cattle On-Farm Biosecurity Standard

Implementation Manual

Growing Forward
A federal-provincial-territorial initiative

Canada

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CFIA P0860E-13
Catalogue No.: A104-105/1-2013E
ISBN: 978-1-100-21840-3

Cette publication est aussi disponible en français.

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Canadian Beef Cattle On-Farm Biosecurity Standard: Summary

1. MANAGE & MINIMIZE ANIMAL MOVEMENT RISKS

1A. Manage commingling:
- 1A.1. Segregate and, when warranted, vaccinate, test, and otherwise treat, incoming animals.
- 1A.2. Obtain and share information about commingled animals with previous and future owners.
- 1A.3. Minimize contact with animals of other species and from other operations to the extent possible.

1B. Manage movements of high-risk and highly susceptible animals:
- 1B.1. Manage and minimize movements of, and contacts with, high-risk and highly susceptible animals.
- 1B.2. Use or request clean trucks for movement of highly susceptible animals.

2. MANAGE THE MOVEMENT OF PEOPLE, VEHICLES, EQUIPMENT, AND TOOLS

2.1. Apply sanitation practices that are relevant to personnel, visitors, vehicles, equipment, and tools on entry to, within, and on exit from production areas.
2.2. Minimize the use of the same equipment for both "clean" and "dirty" tasks.
2.3. Ensure production area perimeters are sufficient to contain livestock, with access points that can be closed to prevent access by people, other than deliberate non-compliance.
2.4. Post biosecurity signs at access points to production area and farmyard.
2.5. Manage and dispose of deadstock and manure to minimize contact with live animals.
2.6. Minimize pests to reduce exposure to livestock to the extent practical.
2.7. Manage livestock to reduce exposure to wildlife to the extent practical
2.8. Ensure facilities are maintained and clean.

3. MANAGE ANIMAL HEALTH PRACTICES

3.1. Establish and maintain a working relationship with a veterinarian.
3.2. Manage herd health according to a documented Herd Health Plan (HHP), prepared in consultation with a veterinarian.
3.3. Obtain water, feed, medications, and other inputs from safe and reliable sources, and manage or store these resources to ensure their ongoing safety and efficacy.

4. EDUCATE, PLAN, RECORD

4.1. Ensure that personnel understand how and why biosecurity is applied on their operation.
4.2. Develop, document, and maintain a biosecurity plan that is specific to the needs of the operation.
4.3. Ensure that personnel know how to respond to the range of animal health situations typical to the operation.
4.4. Ensure that personnel know how to respond to an unusual animal health situation.
4.5. Maintain ongoing records for animal health management.

Introduction

Objectives

The primary objective of this Implementation Manual is to provide Canada's beef cattle producers with information that will assist them in implementing the Canadian Beef Cattle On-Farm Biosecurity Standard. Key principles of the Standard are to:

- Manage and minimize animal movement risks, specifically those from commingling, high-risk animals and highly susceptible animals.
- Manage the movement of people, vehicles, equipment and tools.
- Manage animal health practices.
- Educate, plan and record.

A second objective is to assist those producers who wish to establish Biosecurity Plans specific to their operations, by providing them with information enabling them to prepare the key elements of such a plan:

- Plans for: incoming animals; entry requirements for personnel, visitors and equipment; deadstock and manure disposal; initial disease response; high-risk biosecurity
- Record keeping templates for: visitors; livestock movements; health treatments and vaccination; feed purchases

The Standard and Implementation Manual are some of the tools that are available to producers who wish to better understand and apply biosecurity. Given the breadth of subject matter and complexity of various operations, these or any other tools should not be construed as the only such tools a producer should use.

Biosecurity is increasingly important to individual operations and to the industry as a whole. Producers are encouraged to regularly review the biosecurity of their operation and to make use of all available tools while doing so, including the involvement of their veterinarian.

A Biosecurity Plan is the critical component of most disease-prevention strategies.

> *A Biosecurity Plan is the critical component of most disease-prevention strategies.*

Format of this Manual

The Standard itself provides the basic Principles, supported by Target Outcomes, for managing disease within the beef cattle industry.

This Implementation Manual is organized to align with the Standard and provides producers with further explanations and information for each of the Target Outcomes. It specifically addresses:

- The rationale: Why is it important?
- How it can be achieved: Suggested risk management practices
- References to Schedules that provide specific 'How to' information, including samples, examples and records.

Development of the Standard

The Standard was developed through consultation led by industry and involving all sectors of the beef cattle industry, together with a broad range of technical advice from government and academia.

Why are Biosecurity Standards Important?

Producers can adopt or enhance biosecurity within their operation to help...

- Improve the health of individual animals, which in turn improves the health of the national cattle herd
- Lower the cost of cattle production on the family farm and throughout the industry
- Limit the transmission of zoonotic diseases
- Avoid the devastating impact and loss of international markets that would result from an outbreak of a reportable foreign animal disease, such as Foot and Mouth Disease (FMD)
- Provide a means for standardizing health management practices across the country, as applicable,

While reportable foreign animal disease outbreaks in Canadian cattle are rare, the impacts are readily apparent to beef cattle producers, as evidenced following the identification of BSE in Canada.

Canada's beef cattle industry relies upon trade and would be devastated if a highly contagious and infectious disease like FMD were to occur. The impact to the industry and the economy would result in multi-billion dollar losses.

What Is Biosecurity in the Canadian Beef Cattle Industry?

The Canadian On-Farm Beef Cattle Biosecurity Standard is essentially a set of risk management practices. These practices are designed to assist producers in managing disease on all types of Canadian beef cattle operations.

For the purposes of this manual, we will use the following definitions for biosecurity, disease and production area. Additional terms are defined in the glossary in this manual.

Biosecurity (def'n): Those practices that prevent or mitigate disease from entering, spreading within or being released from operations that may contain livestock.

There is no single definition for biosecurity and it is refined to meet the needs of different situations, applications, and organizations. This definition includes common themes from definitions prepared by different animal health groups from around the world, and is applicable to the livestock industry.

Disease (def'n): A broadly applied term encompassing the introduction, transmission, spread and/or existence of a range of pests, pathogens and other disease-causing agents, including toxins.

This definition includes the agent, its effect on the animal (ill health) and its transmission, which are the risk events being managed. The definition chosen here allows us to address all forms of disease, although the emphasis throughout is contagious disease.

Production Area (def'n): The operation's corrals, pens, barns, and pastures where livestock are or may be kept.

Who Practices Biosecurity And Where Does It Occur?

Producers are not alone in practicing biosecurity; many organizations / government bodies are involved, with a broad range of responsibilities, including:

- Internationally, the World Organization for Animal Health (OIE) sets animal health guidelines, for trade and other purposes. http://www.oie.int/
- At our border, the Canada Border Services Agency enforces Canada's requirements for animal health on incoming visitors, returning Canadians and inbound shipments.
- Nationally and provincially, the Canadian Food Inspection Agency and provincial animal health services manage programs and conduct surveillance for a broad range of diseases, together with other activities designed to maintain Canada's animal health status.
- Across the country and throughout the production system, veterinarians work to diagnose, manage and eradicate disease.
- And industry associations work with producers and governments to enhance awareness.

Figure 1 provides a graphical representation of some of these organizations.

At the farm level, biosecurity practices are being identified and incorporated into Standards for many Canadian agri-commodities. The Canadian On Farm Beef Cattle Biosecurity Standard sets out the practices for beef cattle producers.

FIGURE 1

What Diseases are of Concern to Your Animals?

Some diseases of beef cattle in Canada include:

- **'Endemic' diseases:** These are already present in the industry and may occur on an ongoing basis. Producers may be familiar with many of these, and already have encountered them. Examples include:
  - Infectious bovine rhinotracheitis (IBR)
  - Bovine viral diarrhea (BVD)
  - *Mycobacterium avium paratuberculosis* (Johne's Disease)
  - *Neospora caninum* (Neospora)
- **'Reportable' diseases:** These are of significant importance to human or animal health, or to the Canadian economy. Not generally present in the industry, these have rarely if ever occurred in the Canadian industry and are sometimes referred to as 'foreign animal diseases' or 'emerging diseases' in the case of the newer ones. Examples include:
  - Bluetongue virus (Bluetongue)
  - *Mycobacterium bovis* (Bovine Tuberculosis or bTB)

- *Brucella abortus* (Brucellosis)
- Bovine Spongiform Encephalopathy (BSE)
- Foot and Mouth Disease (FMD)

- **Zoonoses:** These are diseases that can be transmitted from animals to humans. They may be endemic or reportable, and include diseases such as bTB, Brucellosis, Rabies, and Ringworm, all of which can be found in cattle.

Reportable diseases represent a significant threat to animal or human health, or the economy, and require control or eradication actions.

Producers and those caring for cattle must immediately notify the CFIA (see Schedule 7 for contact information) of the presence of a Reportable disease or any fact indicating its presence. Producers should also notify their veterinarian and the Office of the Chief Provincial Veterinarian/Chief Veterinary Officer in their respective province.

Getting the right balance: cost and benefit

There are costs associated with biosecurity practices. Cash outlays for new equipment are relatively easy to measure. The additional time and effort to undertake new and different management practices are more difficult to measure, but are just as important.

Perhaps most difficult to measure are the direct benefits of adopting biosecurity practices. It is difficult to determine when disease threats to the herd are eliminated by good biosecurity practices if the health of the herd remains unchanged. It is only when animals become ill with a contagious disease that we know that biosecurity failed.

The results of implementing biosecurity can take time to become apparent and it is often difficult to attribute to a particular change in practices. For instance, what are the benefits of avoiding a disease outbreak?

- To an individual operation, for an endemic disease like IBR?
- To a large region, for a reportable disease such as bTB?
- Or to the Canadian livestock industry, for a disease like Foot-and-Mouth Disease (FMD)?

Given the realities of tangible costs and benefits that are difficult to measure, the information provided here is intended to clearly reduce the presence and spread of disease. Less disease means healthier, more productive animals, lower death loss and, in turn, greater income-generating capacity for the herd.

Achieving the right balance between the costs and benefits of new biosecurity practices will vary significantly between operations.

Most producers will need to make an intuitive or qualitative decision about adopting specific biosecurity practices on their operation: do the perceived benefits outweigh the perceived costs?

Good records can help in making an informed decision at the outset, before adopting certain biosecurity measures. They can also help in evaluating the merit of past decisions.

'Biosecurity is simple things, done right, every day.

Getting Started

Reviewing and/or developing a biosecurity program may feel like an overwhelming task; however, the tools in this implementation manual will facilitate the process. Biosecurity is a team effort and we suggest that you involve your staff, members of your family and your veterinarian. You will quite possibly consider other material as well.

To simplify the process of reviewing and/or developing a biosecurity program, break it down into manageable steps using a structured approach:

- Step 1: Create a list of the locations of all land/sites used by the operation for cattle production and identify the key activities that occur there.
- Step 2: Prepare a farm diagram(s).
- Step 3: Review the four elements of a biosecurity program.
- Step 4: Conduct a biosecurity farm self-assessment.
- Step 5: Analyze the self-assessment for gaps/weaknesses and prioritize issues.
- Step 6: Establish an action plan.

Step 1

Create a list of the locations of all land/sites used by the operation for cattle production and identify the key activities that occur there.

Documenting the locations of all land used for cattle production, providing a brief description of the land/area, and identifying the key activities that occur there provides a summary of the farming operation. This facilitates biosecurity planning, particularly the ability to identify and structure movement and traffic flows between sites.

Step 2

Prepare a Farm Diagram(s): see Figure 2 below.

Preparing a farm diagram allows you and others to quickly identify key aspects of the farm operation, traffic flows, areas that are creating difficulty managing the site, and (following some planning) what adjustments might be made to improve farm biosecurity practices.

If multiple land parcels / different locations are being used to raise cattle, focus on the sites where herd health management activities occur, including those sites with barns, pens, corrals, chutes, and

treatment areas. Crown pasture and leased pasture/range, while important sites at which to manage risk, pose obvious difficulties when establishing and depicting zones and traffic flows; written notes for staff on managing the risks may suffice for these.

This manual makes reference to farm layout and traffic flow. "Farm layout" refers to the physical location of facilities, i.e. farmyard, holding pens, handling facilities, manure storage etc. "Traffic flow" refers to the routes by which cattle, people, and vehicles move to, from and between facilities within the operation, i.e. routes to and from handling facilities, manure storage, roadways etc.

Farm layout and traffic flow can result in risks that contribute to disease, and therefore are important to biosecurity. The following diagram and details provide additional information as to how this occurs.

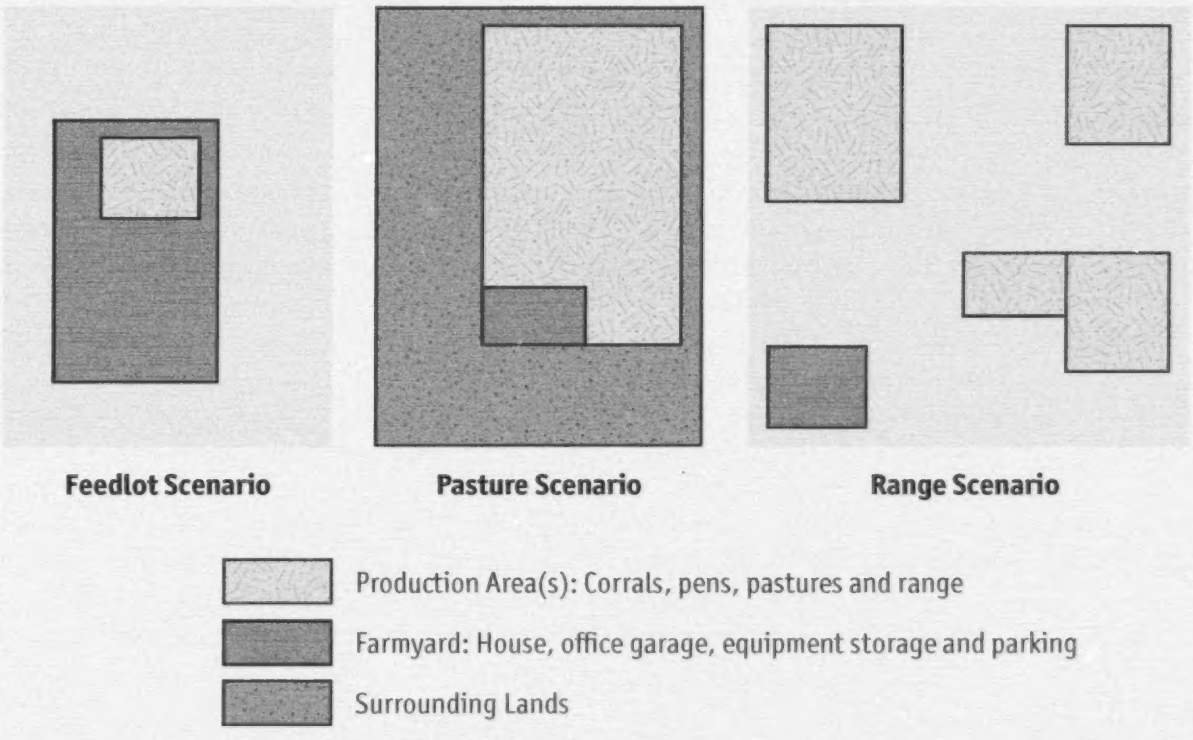


*FIGURE 2—**Farm Diagram:** Scenarios Common to the Beef Cattle*

Most beef cattle operations are loosely based on the operational types depicted by the simple farm diagrams above.

Most operations will also have the following facilities:

- Farmyard and/or office area, generally on the premises, but cattle are not typically held here (e.g. houses, office, driveways, parking, machinery buildings, etc.)
- Production Area, where cattle are or may be held, e.g. pastures, corrals, pens, barns, range, etc.

Surrounding lands: Use a diagram, aerial photo, or satellite image to create a farm diagram for your operation. Identify the outer boundaries of the Farmyard in amber, and the Production Areas in red. Knowing the boundaries between these areas will help you establish and maintain appropriate levels of biosecurity for different areas within your operation. Producers generally want higher biosecurity in the Production Area, where cattle may be held.

Identify the current location of specific facilities – This is your farm layout, and it may include the farm yard and access points, production areas and access points, road or commonly used path ways, residences, visitor parking, personnel parking, the deadstock holding area, feed storage and feeding areas, manure storage, manure storage for trucks being "cleaned out" prior to loading, segregation and sick animal holding areas, waterers, water courses and other significant facilities. Certain facilities can contribute to disease risks when they are located inside the Production Area, e.g. visitor parking, deadstock pick-up, and farm deliveries. By identifying the risks, there is an opportunity to reduce the risk by moving the facilities in question or establishing procedures to minimise them.

Considering traffic flows relative to the various facilities noted above may identify additional disease risks. For instance, routine movement through or past segregation or sick pens is a disease risk. A producer who is aware of such risks may have the opportunity to reduce them by altering traffic flows at some future time.

Refer to your farm diagram as you read this manual to identify and develop solutions to issues that are biosecurity risks.

Step 2

Review the broad components of a biosecurity program. There are 4 pillars:

- Animal movements
- Movements of people, vehicles, equipment and tools
- Animal health practices
- Educating, planning and recording

Review the primary activities that occur in your farm operation as they pertain to each of the pillars – Refer to the Summary of the Standard on page 4 to assist in this process. The objective is to familiarize yourself with the broad categories of biosecurity and begin thinking about how the broad activities of your operation can be slotted into that framework.

Some of the activities may not pertain to the farm operation and can be skipped over (for the time being). At a later date, you may want to read and consider how the biosecurity principles in these other sections might be altered and put to use in addressing difficulties encountered on your site.

Step 3

Biosecurity Self-Assessment

Conduct a self-assessment of the biosecurity practices on the farm – there is a self assessment tool provided to assist with this. Indicate on the assessment whether the activity occurs most or all of the time (yes, Y), some of the time (sometimes, S), rarely or never (no, N), or is not applicable (N/A). Note: Do not identify elements as not applicable if they pertain to the farm operation, but are either not being done or you do not consider it important [e.g. If you introduce animals into the herd from an outside source, but do not isolate them or have an isolation area, identify the practice as (no, N)].

Section 1

Biosecurity Practice 1 **Manage and Minimize Animal Movements: Commingling, High-Risk and Highly Susceptible Animals: Do You...**	***Self-evaluation***				***Notes***
	Y	**S**	**N**	**N/A**	
Take measures to limit the contact of your herd with animals from other operations?	☐	☐	☐		
Does this include: ...ensuring that there is no fence-line contact with animals of other operations?	☐	☐	☐		
...separating/removing cattle from other operations, which inadvertently may have become mixed with yours, as soon as possible?	☐	☐	☐		
Operate a closed herd by raising your own replacement animals and using your own bull or a health-tested bull from an outside source?	☐	☐	☐		
Consistently apply health practices to incoming animals (for all targeted diseases) before introducing them to the herd?	☐	☐	☐		
...or to animals that are returning, before re-introducing them to the herd?	☐	☐	☐		
Do these practices involve: ...carefully observing animals for signs of illness?	☐	☐	☐		
...segregation?	☐	☐	☐		
...vaccination?	☐	☐	☐		
...testing for diseases?	☐	☐	☐		

Have designated areas set aside for segregating new cattle?	☐	☐	☐		
...and established criteria (e.g. negative test results, minimum length of time for segregation, etc.) segregated cattle must meet before they enter the main herd?	☐	☐	☐		
...place sentinel animals from your own herd with the segregated new cattle to monitor for disease?	☐	☐	☐		
Attempt to obtain animal health information before buying cattle, especially breeding stock (disease test results, vaccination and treatment history, etc.)?	☐	☐	☐		
...or before commingling your cattle with cattle from other operations?	☐	☐	☐		
Segregate sick animals for treatment and care?	☐	☐	☐		
Work from younger or healthier animals to older higher risk animals, in your normal daily routine?	☐	☐	☐		
Use separate equipment or clean and disinfect equipment when working with sick animals?	☐	☐	☐		
Keep cattle of different age groups penned separately (does not apply to the housing of cow/calf pairs)?	☐	☐	☐		
Use your own trucks for transporting stock?	☐	☐	☐		
Use trucks from an outside source that have been cleaned and disinfected, to transport stock?	☐	☐	☐		
Number of Responses					

(yes, Y), some of the time (sometimes, S), rarely or never (no, N), or not applicable (N/A)

Section 2

Biosecurity Practice 2 **Manage the Movement of People and Vehicles, Equipment and Tools: Do You...**	***Self-evaluation***				***Notes***
	Y	**S**	**N**	**N/A**	
Limit access to your animals to only those individuals required for their care and handling?	☐	☐	☐		
Restrict visitor access to your animals if the visitors have had recent (within 48 hours) contact with livestock / been on livestock premises?	☐	☐	☐		
Require visitors to: ...clean and disinfect footwear or wear farm-designated footwear for entry to Production Area?	☐	☐	☐		
...wear freshly laundered clothing or farm-designated clothing for entry to the Production Area?	☐	☐	☐		
Require equipment to be visibly clean if it will come into contact with animals?	☐	☐	☐		
Wet clean (wash) treatment tools between each use on sick animals (e.g. balling guns, stomach tube, etc.)?	☐	☐	☐		
...and does this include disinfecting treatment tools?	☐	☐	☐		
Apply sanitary procedures (wet cleaning) to equipment that was used for a "dirty" task such as handling manure or deadstock, before using it for a "clean" task like feeding?	☐	☐	☐		
Have gates at access points to your Farmyard and Production Area and ensure they are kept closed to prevent access by visitors?	☐	☐	☐		
Ensure fences and gates are maintained to prevent unplanned commingling of your animals with those from another operation?	☐	☐	☐		
Post biosecurity signs at access points to your Farmyard and Production Area?	☐	☐	☐		
Post procedures for visitors on the requirements necessary for entering the farm or production area?	☐	☐	☐		
Promptly remove dead animals from animal holding areas?	☐	☐	☐		

Prevent live animal access to: ...deadstock storage areas?	☐	☐	☐		
...manure storage areas?	☐	☐	☐		
Take measures to prevent manure runoff, including that from neighbouring operations, from spreading to other areas of your operation?	☐	☐	☐		
Control pests that could spread disease (rodents, birds etc.) when possible?	☐	☐	☐		
Number of Responses					

(yes, Y), some of the time (sometimes, S), rarely or never (no, N), or not applicable (N/A)

Section 3

Biosecurity Practice 3 **Manage Animal Health Practices: Do You...**	***Self-evaluation***				***Notes***
	Y	**S**	**N**	**N/A**	
Have a veterinarian that is familiar with your operation and herd health practices?	☐	☐	☐		
Have a herd health plan?	☐	☐	☐		
...and do you review it at least annually with your veterinarian?	☐	☐	☐		
...does it include a herd vaccination plan?	☐	☐	☐		
Do you read and follow instructions provided on the manufacturer's labels for the handling and use of mediations/ vaccinations?	☐	☐	☐		
Regularly monitor and inspect animals for signs of illness (e.g. daily where / when possible)?	☐	☐	☐		
Obtain a veterinary diagnosis for animals that appear to have died from disease or an unknown cause?	☐	☐	☐		
Know the health status of neighbouring livestock herds?	☐	☐	☐		
Purchase feed/supplements from suppliers who can verify the origin of the products and/or the production practices used?	☐	☐	☐		

Take measures to ensure feed and bedding is properly stored after harvest or delivery, including monitoring for contamination, mould and overall quality?	☐	☐	☐		
Remove old feed and manure from troughs, feedbunks and feeders before adding fresh feed?	☐	☐	☐		
Clean areas around troughs and feedbunks frequently by scraping?	☐	☐	☐		
Test water sources for cattle (particularly open water sources such as streams, ponds, dugouts) at least annually for disease pathogens and pests?	☐	☐	☐		
Number of Responses					

(yes, Y), some of the time (sometimes, S), rarely or never (no, N), or not applicable (N/A)

Section 4

Biosecurity Practice 4	***Self-evaluation***				***Notes***
Educate / Plan/ Record: Do You...	**Y**	**S**	**N**	**N/A**	
Maintain a written biosecurity plan?	☐	☐	☐		
...and are all personnel familiar with it?	☐	☐	☐		
Know what your typical animal health situations are?	☐	☐	☐		
...and do you have a standard response for each?	☐	☐	☐		
Know how you would determine if there was an unusual animal health situations?	☐	☐	☐		
...and how you would respond in that case?	☐	☐	☐		
Keep records of vaccinations and treatments for your animals?	☐	☐	☐		
...and do you record disease incidents?	☐	☐	☐		
...and do you record animal deaths and the suspected cause of death?	☐	☐	☐		
...and are these records on an individual animal basis?	☐	☐	☐		
Keep a record of incoming cattle and where they were sourced from?	☐	☐	☐		

Keep a record of visitors to your operation?	☐	☐	☐		
...and do you record if there has been previous (within the last 48hours) contact with livestock?	☐	☐	☐		
Number of Responses					

(yes, Y), some of the time (sometimes, S), rarely or never (no, N), or not applicable (N/A)

Step 4

Analyse Your Self-Assessment

For each section of the self assessment, identify how many responses were green, yellow and red.

Section	Number of Green Responses	Number of Yellow Responses	Number of Red Responses
1			
2			
3			
4			

Interpreting the Results

Green Responses: Safe – meeting basic biosecurity practices, no action required.

Yellow Responses: Warning – potential for failure of a biosecurity element, some action required.

Red Responses: Alert – biosecurity gap identified, action required.

Which section has the largest number of red responses? This area requires the most action and might be the first area for you to focus on.

Prioritize the list - which are the most important risks?

All of the elements of a biosecurity program are important: the failure to address any one biosecurity element can result in a breakdown of the program and disease in the herd. However, some biosecurity elements will have a greater impact than others in the operation and it is important to prioritize the biosecurity risks that are identified and then establish an action plan to address them.

Step 5

Establish an action plan to mitigate the risk

Some of the risks will be easy to address and implement in a short period of time (e.g. establishing a location to change into farm-designated outer clothing or setting up a boot-wash station) while others may require six months or a year to complete (e.g. fencing or modifications to animal housing).

In general, short term activities (those that can be planned and implemented within 6 to 12 months):

- are primarily changes in procedures;
- require minimal investment in time and capital;
- work within the existing framework of the farm operation (site layout, building construction/ configuration, staffing levels, etc.).

Longer term activities (those that can be planned and implemented over more than a year):

- require some change to the infrastructure of the site, the buildings, farm layout etc.;
- require some investment in time and capital to complete.

Work with your veterinarian to establish the list of priorities and your staff to develop an action plan.

Are there specific changes in any of the 4 management areas that would improve biosecurity on your operation?

Biosecurity Section/Pillar	Description of Biosecurity Gap Identified	Suggested Corrective Actions
Animal movements		
Movements of people, vehicles, equipment and tools		
Animal health practices		

Educating, planning and recording			
What is the single most significant biosecurity challenge(s) to your operation?			
Which diseases have you experienced on your operation within the last 3 years?			Diseases:
Can you and the appropriate staff identify these diseases?	Yes ☐	No ☐	
Do you have a plan(s) setting out the practices used to respond to these diseases?	Yes ☐	No ☐	Describe the plan:
Are there biosecurity/herd health practices that could be implemented to reduce the re-occurrence of these diseases?	Yes ☐	No ☐	Describe:
Are there particular diseases that could have huge impacts despite low/lower probability (e.g. bovine tuberculosis, anthrax, foot and mouth disease)?	Yes ☐	No ☐	Diseases:
Could you or your staff identify these diseases?	Yes ☐	No ☐	
Do you have a plan setting out your initial response after identifying them?	Yes ☐	No ☐	Describe the plan:

Risk Mitigation

Additional information to help mitigate the risks identified in the questions above is provided in the following sections of the Implementation Manual. As you work your way through it, return to these pages to record your thoughts on possible actions, in the margin note sections on the right. Having this information recorded in one location will help you in determining the mitigation actions most appropriate to your operation.

Manage and Minimize Animal Movement Risks

Animal movements are one of the most common means of spreading disease in the beef cattle industry. The most significant of these involve:

- Commingling: the mixing of animals from different sources. Examples include:
  - acquiring animals from several sources, as occurs at feedlots; or
  - putting animals into contact with animals from many sources, as occurs at community pastures.
- High-risk animals: those with an unknown or greater probability of having a disease. Examples include animals of:
  - unknown health status,
  - a different herd, or returning after being away from the herd,
  - sick or recently recovered status, or
  - a different species.
- Highly susceptible animals: those at greater risk of acquiring disease. This includes:
  - calves and young stock,
  - sick or recently recovered animals,
  - animals with reduced or weakened immunity, and
  - cattle not previously vaccinated.

These movements significantly contribute to disease in the beef cattle industry. They are also an important element of most beef cattle operations, and certainly of the industry as a whole.

While it is impractical to suggest that these movements not occur, producers should be aware that:

- there are risks associated with these forms of animal movements; and
- they can manage these risks using practices suggested in the following sections.

1A. Manage Commingling

Commingling is a common practice familiar to most beef cattle producers that involves the mixing of cattle from one operation with those of another. Examples include: putting animals on crown range or in community pastures, shows, live auction sales, bull tests, feedlots, backgrounding and more.

Most producers are familiar with commingling and it is integral to many if not most operations. The information here is intended to educate and inform producers regarding the risks associated with commingling and, at the same time, to suggest to producers practices within their own operations that may reduce the impacts of these risks.

1A.1. Segregate and, when warranted, vaccinate, test and otherwise treat incoming animals

Why Is This Important?

Incoming cattle may be carrying and shedding disease, even if they appear clinically healthy, and especially if they've been exposed to cattle from other herds and/or they are stressed due to weaning, mixing, shipping, etc.

- Segregation protects the rest of the herd by providing time to identify disease in incoming cattle. It also protects the incoming cattle from diseases in the rest of the herd, until mitigating strategies like vaccination take effect.
- Vaccination is used to increase the immunity of incoming cattle against diseases that may be present in the herd / environment.
- Testing can help to identify disease risks that exist in incoming animals. Once identified these risks may be managed / treated in a manner that minimizes disease risks to animal and herd.

Suggested Risk Management Practices

a. Determine your risk tolerance

A first step is to clearly determine the degree of risk to the health of your resident herd that you are willing and able to accept and manage. The degree of risk will vary and will be determined by such things as:

- the type of herd maintained – registered purebred versus crossbred
- farm management practices
- producer expertise
- production challenges, including diseases present
- goals established by the producer

Producers of registered purebred herds who derive their primary income from selling breeding stock will have a lower risk tolerance than a backgrounding or feedlot operation.

b. Identify and assess the risk

Identify the risks of disease exposure and transmission, and determine whether they affect the incoming animals and / or the resident herd.

Once these risks have been identified, determine which management strategies can be used to mitigate them: Can the risks be:

- Avoided
- Reduced
- Accepted

Some risks may be accepted and managed using practices such as segregation, combined with vaccination, testing and/or treatments. This has been a successful approach employed by feedlots.

These risks may also be avoided to a degree, for example with certain buying practices that limit the sources of incoming animals. This is part of a successful approach used by many cow-calf operations.

Some, perhaps many, operations will combine both risk avoidance and minimizing practices. In this situation, the operation might use buying practices as well as segregation, vaccination, testing and treatment practices. This integrated approach is successfully applied on cow-calf and purebred operations.

The appropriate approach for a specific operation will vary according to a range of factors, including the risks, the environment, the type of operation, etc. Producers should take the time to regularly evaluate these factors with their veterinarian, and identify the practices most appropriate to their operation.

For biosecurity purposes, disease risk management practices incorporate the concepts of avoidance, reduction and acceptance.

The appropriate practices will depend upon the costs and benefits for a specific operation.

c. Develop an "Incoming Animals Plan"

To be consistent and effective, develop an "Incoming Animals Plan" that incorporates segregation and vaccination, testing and treatment practices specific to your operation. Consult health records, personnel and your veterinarian for diseases of concern and appropriate vaccines, tests and treatments and their limitations. To see what an incoming animals plan might look like, See Schedule 3.

d. Review your buying practices

Use buying practices to limit the risk of introducing disease in incoming cattle. A "closed herd" with no introductions may be ideal, but is impractical for most operations.

Consider the class, source, timing and frequency of the purchases required. For example, there are significant risks that may result from buying untested bulls that have already been used for breeding, or buying foster calves or open cows.

- Many operations limit their purchases to certain classes of animals, e.g. virgin bulls, bred cows or heifers.
- Some producers choose to manage risk by limiting the number or type of sources they buy from, e.g. only from known sources, only from two or three locations, or directly from a breeder (herd of origin).
- Producers can restrict introductions to certain times of the year when the risk may be reduced, or to only a few occasions per year when they can monitor the results effectively.
- Lastly, for purebred operations, improving and increasing herd size through the use of artificial insemination and embryo transfer will reduce disease exposure.

e. Plan the arrival at the farm

Plan where incoming animals are unloaded, to minimize exposure to other cattle. Ideally, trucks should unload without entering the Production Area.

f. Segregate incoming animals

Segregate all incoming animals from the herd, on arrival, whether they are new or returning. This involves separation and regular monitoring for an extended period of time.

- Segregation pens should be near the unloading facility and accessed without exposure to the herd.
- Segregation pens should give incoming animals physical, spatial and procedural separation to avoid exposure to the herd. Avoid spreading disease from one group to the other, whether through run-off, fence-line or nose-to-nose contact, common equipment, clothing, footwear, personnel, pets, wildlife, etc. Consider using designated clothing, boots and equipment. Pens should be physically separate from the rest of the Production Area and a substantial distance from the herd to prevent aerosol spread, e.g. 60 m. or more. Procedures should minimize exposure through different equipment or personnel.
  Note: *The distances required to prevent aerosol transmission of different diseases varies considerably and in some cases preventing nose to nose animal contact is sufficient, while for other diseases, 500m or more may be required.*
- Animals in segregation should be regularly monitored for disease, for an extended period of time. Ideally this involves twice-daily observation for 14 days, possibly more depending on the diseases of concern or whether disease is observed.
- Personnel monitoring segregated animals should know the signs of disease, treatments and response for diseases of concern. When segregated animals display signs of disease, these measures must be employed.

g. Vaccinate, test and treat as required

Vaccinate and/or test incoming animals early in the segregation period. This should take place after leaving the animals overnight to adjust to their location and before they are introduced to the herd. In some cases you may want this done before the animals are brought on farm, e.g. a condition of sale.

Treat incoming animals for internal and external parasites early in the segregation period. In some areas, such parasites play an important role in the spread of certain vector-borne diseases.

All health vaccines, tests and treatments should be recorded, ideally on an individual animal basis. This information, kept in the Health Log, can also be used to inform subsequent owners.

h. Additional considerations

Additional considerations regarding Incoming Animals:

- **"Healthy or highly susceptible animals first":** Monitor, feed and handle healthy/young cattle before segregated/sick/old animals. This helps to avoid spreading disease.

- **Introduce together:** Cattle that are segregated together should move in to the herd together. This helps to minimize stress and resulting disease.
- **Clean** and when necessary disinfect **after use:** Clean and, when necessary, disinfect segregation facilities after use, including bunks and waterers, especially if a disease has been present.

An **"all in / all out"** strategy may work in some scenarios, e.g. smaller feedlots, bull test or backgrounding yards. In larger feedlots, it isn't practical to fill and empty the entire lot at once. However, a modified **"all in / all out"** strategy can be used by penning animals of a particular type and intake date together in the same alleyway or section of pens, and shipping them at the same time. In either case, animals should be left in their purchased groups as much as possible to avoid sorting across pens with different intake dates.

Biosecurity requirements for sick animals are similar to those for segregated animals. Separate facilities for segregation and for sick cattle are important, however, to prevent disease from being transferred to new cattle.

See Target Outcomes 1.A.2, 4.3, 4.4 and 4.5 for additional related information.

1A.2. Obtain and share information about commingled animals with previous and future owners

Why Is This Important?

Sharing herd health information benefits producers (including buyers and sellers). Knowing the health history of commingled animals, including the herd that they are coming from, can:

- avoid / reduce the introduction of disease and other potential health problems to the herd or the incoming animals.
- ensure that appropriate vaccines or tests are administered and avoid the unnecessary cost of duplication.

It is also helpful to report back and let sellers know of health issues that may have originated under their care and what management changes they may need to make. Ultimately, this benefits the animals through improved health and welfare.

Finally, providing this information as a normal practice can impact buying decisions and protect buyer / seller relationships, which are important in any business.

Suggested Risk Management Practices

a. Identify and assess the risk

Reviewing the health information that is relevant to incoming cattle can help to identify possible disease risks. These might affect either the incoming animals or the herd they are joining.

b. Health information follows animals

Health information should accompany the movement of all animals that have been commingled. Ideally the information would accompany the movement of all new purchases, particularly breeding stock, although the emphasis is on commingled stock where the health risks are higher.

The information may be offered on all transfers or transactions. If it isn't offered in the course of the transaction, it should be requested.

Information of benefit to the buyer and animal health and welfare includes: vaccination status, diseases they have been exposed to (disease outbreaks on farm/community pasture), recent treatments for a herd and individual animal.

c. Shipping Records

Ideally this health-related information would be written down for the new owner. A "Shipping Record" can be useful in this regard, and an example is shown in Schedule 6. Some programs offer web-based tools to share health-related information that may also be helpful to the new owner.

d. Treat for known health risks

Commingled animals that are not accompanied by health information represent a common and difficult issue for producers to evaluate. Many commingling practices are common to the industry and unlikely to change. That said, there is an increased health risk that accompanies commingled animals, because they've been exposed to every health risk in the group. Producers can address that risk by treating them for the known health risks of the group in which they were commingled.

Using biosecurity practices in this way enables producers to effectively manage the health risks associated with the common business practice of receiving commingled cattle. The application of biosecurity practices on introduction to feedlots effectively manages the health risks of cattle that are sourced through commingled venues. This has played a significant role in the successful growth of the feedlot sector in the past 20 years.

See Target Outcomes 1A.1, 1B.2 and 4.5 for additional related information

1A.3. Minimize contact with animals of other species and from other operations to the extent possible

Why is this important?

Other animal species (particularly other non-bovine ruminants) may carry diseases that cause minimal to no clinical illness in them, yet significantly impact cattle. For example Bovine malignant catarrhal fever (BMCF) may reside in sheep or goats with minimal impact, yet cause significant health concerns if introduced to cattle.

Cattle in other operations are another risk, as they may have been exposed to a disease not present or managed in the herd. Contact in this case may introduce a disease that is not being managed and against which the herd is not protected. For example, BVD might be managed on one operation, but the disease may be introduced through contact to a herd where the disease is not present or being managed.

Contact with animals in both cases could expose the herd to diseases whose presence the producer is unaware of, whether from:

- wild or farmed animals; or
- cattle, ruminants or other species.

Suggested Risk Management Practices

a. Identify and assess the risk

Identify instances or locations where contact of cattle with animals of other species and/or operations is likely or unavoidable, and try to manage the resulting exposure.

Contact the owners of the operations where contact does occur to collaborate on common biosecurity practices, and identify where additional vaccination or other risk management strategies may be warranted.

Discuss the risks of animal contact with professionals, including your veterinarian, and develop risk mitigation strategies.

Maintain fences

Maintain fences in good repair to minimize contact with other operations. Fence-line contact is of considerably less risk than commingling in the same pasture, particularly if other species are involved.

b. Manage grazing and create buffer zones

Create a buffer zone between operations. This can be done using roadways, natural boundaries, including rivers, double fences, and even the use of more resistant animals. For example:

- Pasture highly susceptible animals furthest from other operations and other species.
- Coordinate grazing with neighbours to minimize fence-line contact, especially if other species are involved.
- Allow a fallow period between grazing rotations, particularly if other species are involved.

c. Manage shared pasture and range

If your cattle are pastured with cattle from other operations, there are a number of practices to consider:

- Obtain health information for the other herds (see 1A.2). Ask the Pasture Manager to provide a copy of vaccination and/or testing requirements. Ensure that commingled herds have similar health status and biosecurity practices.

- Establish and maintain common biosecurity practices amongst those using the pasture. These may help to avoid a range of diseases, including venereal disease; and utilize a range of practices such as testing and culling for infected bulls, wintering bulls away from cows to avoid re-infection, accepting only virgin heifers or cows with calf at foot.

d. Limit contact with other species

Avoid grazing of different species on the same or adjacent production areas. Producers running herds of two or more species should manage their herds to avoid contact between the species groups.

Where practical, control access to water, feed and minerals by animals of other species or operations.

e. Manage contact with wildlife

Where practical, limit contact with wildlife and pest populations, both of which can transmit certain diseases to and among cattle. While not always possible to accomplish, it is useful to know if contact with other species is occurring and how it occurs. Specific inter-species contacts to be aware of include:

- deer and elk on feeding grounds or near feed storage areas;

Birds, for example in feedlots, are unlikely to be avoided or controlled to any great extent and, while their role is unknown, they might be a factor in the spread of some diseases.

f. Manage health of other animals and pets on-farm

Apply good biosecurity practices to animals of other species. Biosecurity standards are being developed for other farmed animal species and these provide good guidelines. Working dogs should have current vaccinations and be monitored for disease.

Ensure that pets are current with their vaccinations, monitored for disease and kept out of the Production Area.

g. Additional pointers

Apply strict biosecurity practices to animals and equipment taken offsite for show or rodeo purposes. These animals should be segregated from the herd for the season and monitored / managed to minimize disease transmission. Trailers and equipment used for this purpose can be cleaned out prior to use for other animals.

See Target Outcomes 1A.1, 1A.2, 2.3, 2.6 and 2.7 for additional discussion regarding wildlife and pests.

1B. Manage movements of high-risk and highly susceptible animals

Most beef cattle producers are aware of the increased disease risks associated with:

High-Risk Animals	Highly Susceptible Animals
• Cattle of unknown immune status or no previous vaccinations • Older animals with more latent and / or chronic health issues (e.g. Johne's Disease) • Animals new to the operation or of another species • Commingled animals that may have been exposed to new pathogens, including animals new or returning to the herd • Sick or recently recovered	• Animals having low immunity • Newborn and recently weaned calves • Pregnant cows • Unvaccinated cattle • Stressed or recently stressed animals, including sick or recently recovered, recently transported or sold at auction, old age, poor general health or a high parasite load

The information provided here may suggest practices that will help producers to manage these animals and their attendant risks.

1B.1. Manage and minimize movements of, and contacts with, high-risk and highly susceptible animals

Why Is This Important?

High-risk animals are more likely than others to "shed" disease while highly susceptible animals have a lowered immunity, making them more likely to acquire disease than others.

Activities which may stress cattle (animal transport, treatments etc.) have been demonstrated to further impair immune function and increase shedding of disease agents. Consequently, moving high-risk and highly susceptible animals increases the opportunity for disease transmission.

Suggested Risk Management Practices

a. Identify and assess risks

Know the health status of your animals and of the animals being introduced to the herd. Specifically, producers should know which individuals or groups are at greater risk of carrying a disease, and which are most susceptible to acquiring a disease.

This should be taken into consideration on all new purchases, and other animals coming into contact with yours.

Additional information may be available from your veterinarian.

b. Avoid movements of these animals

Avoid moving animals of both groups.

Reduce their direct or indirect contact with other cattle, whether these are yours or someone else's, when you can.

c. Disclose known health concerns

Disclosure of known health concerns can be a component of the transaction process. Certainly "buyer beware" should remain a necessary element of every transaction, however known health concerns should be disclosed from seller to buyer, and sellers should avoid "passing them on" as this perpetuates and often amplifies a problem.

d. Treat promptly

Promptly treat cattle that are showing signs of disease to reduce the opportunity for exposure of susceptible animals.

e. Clean and disinfect

Clean and, where appropriate, disinfect equipment between age and production groups. This might include handling equipment and veterinary equipment.

f. Group and manage animals by risk

Sequence farm work and animal handling activities to avoid spreading disease: manage highly susceptible animals first and the high-risk animals last.

Keep age and production units separated where possible:

- Bulls and cows should be wintered separately to minimize infection from late calving and late cycling cows.

Place cattle on pasture with consideration for disease risks:

- Pasture the most susceptible animals furthest from areas where there may be disease risks, with more resistant animals closer.
- High-risk areas might be those adjacent to cattle from neighbouring operations, segregation or sick areas, or deadstock and manure storage.

Consider grazing rotations based on production and age groups:

- Graze replacement heifers on pasture before mature cows, so that the heifers are not exposed to persistent organisms shed by non-clinical animals that may be present amongst the older cows.

See also suggested practices for commingling animals. See Target Outcomes 1A.1, 1A.2 and 1A.3.

'Handle healthy or highly susceptible animals first, high-risk animals last.'

1B.2. Use or request clean trucks for movement of highly susceptible animals

Why Is This Important?

Manure and dirty bedding may be a source of disease. Removing this material from trucks and trailers before they are used to transport cattle and before these vehicles are brought onto other premises reduces the risk of spreading disease.

Suggested Risk Management Practices

a. Identify and assess risk

Ideally, clean trucks would be available for all livestock movements; however, this is currently an unrealistic proposition in the cattle industry. Using clean trucks is of greatest importance for transporting highly susceptible animals. These animals are at greatest risk of acquiring disease, which increases with the added stress of transportation, and may do so from the manure or dirty bedding present in trucks that have not been cleaned.

b. Request clean trucks

Clean trucks should be requested when producers book their loads.

For many reasons, it may be difficult to clean trucks or to obtain clean trucks, e.g. cold weather, few clean out facilities, backlog of orders during fall runs, etc.

c. Clean your own trucks

Producers should keep their own trucks clean. If your truck is used to haul cattle for other premises, then clean it before leaving your premises. Clean it again at the other premises before it returns, or use the clean-out pile noted below.

d. Provide "clean out" facilities

While it is preferable that trucks be clean on arrival, they can be cleaned out or scraped on arrival, weather permitting, on the premises. A clean-out pile for trucks should not be accessible to animals, and should be separate from the premises' stored manure. This material should not be spread or sold until properly composted or weathered.

e. Cleaning live haul trailers

Cleaning consists of five steps.

1. **Dry cleaning** – To remove all visible manure and bedding (scraping, brushing, etc). During winter, this may be limited to scraping out loose material, which may be easiest immediately after animals are off loaded and before the bedding freezes.
2. **Wet Cleaning** – If washing facilities are available, the trailers should then be cleaned from top to bottom using water and detergent at low to medium pressure.
3. **Drying** – Ideally, surfaces should be allowed to dry prior to disinfecting.
4. **Disinfection** – If disinfection facilities are available, disinfect the trailers following the wet cleaning. Use a broad-spectrum registered (Health Canada approved) disinfectant. Registered disinfectants will be identifiable by their Drug Identification Number on the label (DIN) and should be broad. Appropriate application is important – follow the manufacturer's directions. Note: There is little value in disinfecting surfaces if the dry and wet cleaning have not been completed. The mud, manure and bedding will prevent adequate disinfection by protecting surfaces and inactivating many disinfectants.
5. **Drying** – Ideally, trailers should be allowed to dry prior to re-bedding.

Re-bed trailers with material that is commonly used in the area, e.g. shavings, straw, etc. Run off from the washing site should not come in contact with cattle and/or environmentally sensitive areas.

Activities For Cleaning Trucks	Additional Points
1. Dry Cleaning (may be limited to scraping) 2. Wet Cleaning* 3. Drying 4. Disinfecting* 5. Drying 6. Re-bed * weather and facilities permitting	• Request clean trucks when booking • Clean out prior to entering premises • Use clean out pile, if required • Keep clean-out pile inaccessible to cattle, and separate from the premises' manure storage • Protect the environment and livestock by appropriately managing run-off

Manage the Movement of People, Vehicles, Equipment, and Tools

Movements by people, vehicles, equipment and tools that have been in contact with manure, urine, blood, saliva, etc. from diseased animals (livestock and deadstock) can transmit disease when moving on, off and within a farm.

2.1. Apply sanitation practices that are relevant to personnel, visitors, vehicles, equipment and tools on entry to, within, and on exit from production areas

Why Is This Important?

People, vehicles, equipment and tools can all carry disease on, off or throughout a beef cattle operation. While some of these movements can be avoided or prevented, many are essential to the operation. Sanitation practices are necessary to reduce the opportunity for these movements to transmit disease.

Suggested Risk Management Practices

Some movements are clearly more likely to carry disease than others. To ensure that sanitation practices are relevant and can be seen to be of value in controlling disease, the practices suggested here involve a risk-based approach based on both the risk of the incoming items and the susceptibility of the areas being visited, e.g. the Production Area versus the Farmyard.

Practices appropriate to a specific operation will vary due to the type of operation, farm layout and traffic flows.

All producers should apply some general practices on an ongoing basis.

a. Identify and assess risk

Evaluate the risk of all visitors by asking about livestock / farm contact within the past 14 days (including their accompanying vehicles, equipment and tools).

- Low / negligible risk: no livestock contact; one visit to a livestock operation.
- Medium risk: livestock contact at one operation; or more than one visit to livestock operations.
- High risk: livestock contact at more than one operation; or personnel handling the operation's sick or segregated animals, or persons from other countries reporting outbreaks of a reportable disease.

See Entry Requirements in Schedule 13 for additional information.

b. Persons from other countries

To evaluate the risk of persons from other countries, it is advisable to discuss specific details with your veterinarian, or the office of your Chief Provincial Veterinarian / Chief Provincial Veterinary Officer (see Schedule 7).

Remember to include staff or other personnel, including you, who are returning from another country.

Some issues to consider are contacts while outside Canada including:

- Did they come into contact with livestock?
- Do they have clothing or personal effects that have been in contact with a farm or livestock?
- Are reportable or other major diseases a concern in the other countries?
- When did they return to Canada (after being out of country)?

c. Before arrival at your farm

Before arrival, communicate biosecurity practices to all visitors and ensure that they:

- understand what biosecurity practices are required and why they are necessary;
- minimize their contact with livestock and/or other farms prior to the visit, and
- leave their pets at home, or contained within their vehicle on arrival.

d. On arrival

On arrival, require that visitors:

- record their visit in the Visitor Log;
- put on separate clean clothing and footwear, or use disposable or clean clothing and footwear provided by the operation;
- wash their hands with soap and water or use a hand sanitizer;
- minimize their contact with livestock during the visit;
- not access the segregation or sick pen areas, or have contact with those animals;
- keep vehicles outside the Production Area when possible, including service and supply vehicles such as feed or fuel trucks and deadstock removal trucks.

e. On departure

On departure, ensure that:

- visitors clean or dispose of their footwear and wash their hands after contact with livestock;
- personnel wear clean clothing and their footwear is clean of manure; and
- vehicles are clean of visible organic material, particularly manure.

f. Additional general pointers

The following points should be considered and followed where possible:

- Designate separate parking for all vehicles that go off premises, including visitors, to minimize the degree to which manure is tracked off the premise.
- Laneways and walkways are dry, accessible, and free of manure.
- Have disposable or clean clothing and footwear available, in the event they are needed by visitors.

2.2. Minimize the use of the same equipment for both "clean" and "dirty" tasks

Why Is This Important?

Deadstock, including bodily fluids or secretions, manure and garbage, often carry disease. For this reason they are sometimes referred to as "dirty" and their related tasks as "dirty tasks." Surfaces that come into contact with these items may have been exposed to disease and are considered "dirty" as well.

In contrast, feed, water and bedding that is either consumed by or in direct contact with cattle should be "clean" or free of disease. They are sometimes referred to as "clean" items, and their related tasks as 'clean' tasks. Surfaces coming into contact with these items should be kept clean and free of disease.

Using "dirty" equipment for clean tasks, or for direct contact with livestock or humans, may expose cattle to disease and should be avoided. Events of this sort provide a chain of infection that can be a significant factor in the spread of most diseases, and have been identified as the initial cause of many major outbreaks.

The spread of FMD during the 2001 outbreak in the UK was significantly amplified by the use of dirty items for clean tasks. "Dirty" equipment and other items with FMD-contaminated surfaces coming into contact with clean equipment and/or animals was cited in several instances.

Suggested Risk Management Practices

Ideally specific pieces of equipment should be dedicated for "dirty" tasks only, such as handling deadstock, manure and garbage. They should never be used for "clean" tasks.

a. Identify and assess the risk

In many beef cattle operations equipment must be used for both "clean" and "dirty" tasks. Identify where these practices occur.

b. Break the chain of infection

Break the chain of infection that can occur in the situations where equipment is being used for both "clean" and "dirty" tasks, by using some of the following alternatives:

- Ideally, find a means that avoids using the same equipment for both clean and dirty tasks, or
- Have interchangeable units for different tasks. For example the tractor could have a bucket dedicated for moving manure or deadstock that is different from the one used for moving feed;

- Prevent direct contact with the equipment surface, for example carrying deadstock suspended by a chain from the front end loader bucket that is normally used for feed;
- Dry/wet clean and disinfect contact surfaces after use on "dirty" tasks; and/or
- Perform "clean" tasks first before doing "dirty" tasks, to avoid creating a chain of contamination to healthy animals.

If wheels or other parts of machinery become "dirty" through direct contact with manure, they represent a risk. Clearly, this risk is greater when it is manure from the sick or segregation facilities. Producers should be aware of and manage this risk, by cleaning these items before entering feed or bedding areas

"Break the chain of infection": don't use "dirty" equipment for "clean" tasks!

2.3. Ensure production area perimeters are sufficient to contain livestock, with access points that can be closed to prevent access by people, other than deliberate non-compliance

Why Is This Important?

Keeping the operation's livestock separate and distinct from others and avoiding commingling with animals from neighbouring operations are important means of controlling disease.

Fences or other perimeters that keep the operation's livestock that are being managed differently separate and distinct and prevent commingling with animals from other operations helps to control disease. Animals from neighbouring operations may not be managed similarly and present a disease risk through:

- lack of and/or improper vaccination;
- contact with recently purchased animals of unknown health status;
- exposure to contaminated people and equipment from infected farms.

Fences may also provide some control over contact with wildlife. Access points that can be closed may also limit access by personnel.

Fence-line perimeters or natural boundaries also mark the Production Area where your animals are or may be, and where you will want to focus your biosecurity practices. Access points through these fences signify the point at which enhanced or different biosecurity practices may be implemented if required.

Given the extensive nature of many operations in the Canadian beef cattle industry, it is difficult to control and prevent all unwanted access. However perimeters comprised of fences or natural barriers and access points that can be closed, together with signs (see 2.4), can help to prevent access by all but intentional acts of non-compliance.

Suggested Risk Management Practices

a. Identify and assess risk

Producers should use their farm layout diagram, to locate Production Areas and the Farm Yard, together with the perimeters of each of these and access points.

b. Limit access points

Access points into and out of the Farmyard and Production Areas should be limited. This is helpful in controlling the flow of traffic. These are also the points at which biosecurity practices may be increased to address different risks as suggested in 2.1

c. Control access points with lockable gates

Access points to Production Areas and Farmyards should be capable of being closed and locked. This may be required for a number of reasons, including the possibility of a Reportable or Foreign Animal Disease, when access is being restricted.

Consider locking access points if they cannot be easily monitored. This is particularly important if these points provide access to cattle, feed, water or pesticides.

d. Maintain perimeter fences

Fences should be used to contain livestock at the perimeter of Production Areas, the areas where cattle are or may be. Fences should also be considered to mark the perimeter of Farmyards. Natural boundaries are an alternative.

Fences and other perimeter markings should be used to indicate the location of segregation and sick pens, or other locations where biosecurity practices need to be enhanced.

Fences should be maintained to assist in keeping cattle separate from other groups.

2.4. Post biosecurity signs at access points to production area and farmyard

Why Is This Important?

Signs can inform people of the biosecurity practised on your operation and in the Canadian beef cattle industry. If people are informed of the practices that are important to your operation, and why you do them, then they are more likely to cooperate and assist in maintaining the level of biosecurity you are trying to achieve.

Biosecurity signs can be used for a number of purposes that support biosecurity on your operation. For example, they can:

- Direct visitors to the office or to a visitor parking area
- Request that people contact the office before entry
- Direct traffic flow
- Indicate where biosecurity practices are in effect
- Advise people on biosecurity procedures for entry and exit
- Prohibit entry

Most importantly, signs communicate what you want people to do and why you want them to do so. Unless they know this information, there is no reason to expect them to assist you.

Suggested Risk Management Practices

a. Identify and assess risk

Producers should consider their farm layout diagram to determine all locations where signs should be posted. Additional signs may be effective at access points: from the farm yard to the production area, to feed yards; to segregation and/or sick facilities.

b. Consider the signs required

Signs should clearly indicate what you want people to do, and ideally why you want them to do so.

Signs should also reflect the different levels of biosecurity that may exist throughout your operation. For instance, biosecurity practices for the Production Area, where animals are or may be, are usually higher than in the Farmyard and the signs should reflect this.

Producers may obtain signs from their provincial governments or commodity associations (see Schedule 7).

c. Post signs

Signs should be posted so that they are visible to those entering through controlled access points to:

- The Production Area, e.g. lanes, roadways, doors, gates, etc.; and
- The Farmyard, e.g. lanes and roadways.

Producers may also want to post signs periodically along perimeter fencing that surrounds both the Production Area and the Farmyard, where they are visible to potential visitors.

2.5. Manage and dispose of deadstock and manure to minimize contact with live animals

Why Is This Important?

Cattle that die from disease may "shed" the disease in their bodily fluids (blood, lymph, etc.), secretions (respiratory etc.) and excretions (manure, and urine etc.). Therefore contact with deadstock, body

fluids and secretions, or manure, may spread the disease back to live cattle. (Note: Throughout the remainder of Section 2.5, the term deadstock will include organic materials contaminated by body fluids and secretions.) As well, both deadstock and manure may be scavenged or fed upon by pests and wildlife, spreading the disease to a broader region and additional cattle.

Proper management and disposal of both deadstock and manure can help to control the spread of disease.

Suggested Risk Management Practices

a. Know your federal and provincial regulations

Producers should confirm that their deadstock and manure management practices comply with federal and provincial requirements, many of which have been made more restrictive in recent years (see websites for the Office of Chief Provincial Veterinarian / Chief Provincial Veterinary Officer).

Federal and provincial regulations regarding deadstock and manure address a range of issues that may differ from animal health and biosecurity. Accordingly, while compliance with regulations is advocated, additional practices are also suggested.

b. Avoid contact with live animals

To help avoid the direct or indirect spread of disease back to live animals, producers should consider the following practices to manage the disposal of deadstock and manure:

- Timely disposal (prompt for deadstock, regularly for manure)
- minimize live animal contact
- use equipment specific to this purpose, or clean and disinfect the equipment prior to other "clean" uses (see 2.2)
- clean clothing and boots afterwards, and wash hands. Disinfect these items if an infectious disease is present.

Equipment used for deadstock and/or manure should be designated for this use only, or cleaned and disinfected prior to other uses. See 2.2 for additional information.

Producers should clean equipment, clothing, boots and hands after contact with deadstock or manure, and before engaging in other tasks or leaving the operation.

c. Find a suitable location

Storage locations for deadstock and/or manure should be located adjacent but outside the Production Area, where they cannot be contacted by live animals. Separation of 100 m or more from storage to live animals is required in some provinces. The distance from watercourses, wells and other sensitive areas is also regulated federally and provincially and must be respected.

Producers should consider their farm layout diagrams to identify a location that minimizes the risk of contact. Where possible, construct storage locations so they can be accessed from within the Production Area and from outside.

d. Document your practices

Producers should document their practices to promote a consistent approach or approaches to managing deadstock and manure.

A sample "Deadstock Disposal Plan" and "Manure Management Plan" are provided in Schedules 8 and 9. These should form a part of the operation's Biosecurity Plan.

Specific Deadstock Management practices:

a. Identify and assess risk

Deadstock disposal is regulated in most provinces and producers should confirm that their removal and disposal requirements comply with federal and provincial requirements (see Schedule 8).

b. Timeframes for removal and disposal

Deadstock should be removed promptly to prevent contact with other animals. This also applies to aborted foetuses and placentas – they should be managed as deadstock and not included with manure.

Deadstock should be disposed of as soon as possible. A target of 12-24 hours is desirable, and up to 48 hours is generally acceptable.

c. Disposal methods

Some provinces permit deadstock to be stored for longer periods under certain conditions, or if directed to do so by an inspector appointed under federal or provincial health authority.

Producers should verify which of the following disposal methods are permitted in their province, and the requirements for each:

- Burial, typically has regulatory requirements regarding the number, the pit and its cover, use of quicklime, and distance from roadways, water and water table, livestock facilities, residences;
- Incineration, typically has regulatory requirements (air quality) for small incinerators;
- Rendering, typically has regulatory requirements for storage pending pickup;
- Composting, typically has regulatory requirements for bin, windrow or open systems;
- Natural disposal, typically has regulatory requirements for the number of deadstock and location of disposal.

Deadstock should always be disposed of, or stored, in a manner that minimizes or prevents contact with live animals.

Natural Disposal is NOT permitted in some provinces.
Producers should confirm that their disposal methods comply with regulated requirements.

d. Specified Risk Material

Producers should also be aware of the regulations for handling Specified Risk Material (SRM) for the off farm movement of deadstock. Specified Risk Material (those tissues identified as being capable of transmitting BSE, including carcasses containing those materials) are regulated for movement off farm by a permitting process through the CFIA.

e. Additional pointers

Producers should consider obtaining a necropsy by a veterinarian on all deadstock. This may help to diagnose the presence of a disease or health issue, and to manage and minimize its spread.

Note: Animals euthanized by a veterinarian MUST be properly disposed of: incineration or burial is required in some provinces.

Specific Manure Management practices:

a. Identify and assess risk

Manure management is regulated in most provinces. Producers should confirm that their practices are in accordance with federal and provincial regulations regarding environmental farm plans, manure management plans, etc. (see Schedule 9).

b. Manure removal

Producers should remove all manure regularly from:

- pens, corrals and barns
- areas near waterers and feedbunks
- within waterers and feedbunks and immediately when observed
- the Production Area
- segregation and isolation pens and immediately after use by infectious animals and/or before the next group.

c. Additional pointers

Additional practices, which may not be permitted in some provinces, include:

Remove manure annually, generally in the spring, or after each turn or group of animals.

Store accumulated manure outside the Production Area, and prevent or minimize contact by live animals.

Contain run-off from manure storage areas, to prevent it from reaching water sources or ground water.

Manage the potential disease risk that may be present by composting; and/or weathering (drying and exposure to sunlight through spreading).

Manure should be spread early in the year for maximum drying and sunlight, on cropland rather than pasture, broken up after spreading, and left for a full growing season prior to being grazed.

"Clean-out" manure from off-farm trucks should be stored and maintained separately from on-farm manure. This should not be spread or sold until fully composted or weathered and decomposed.

> *Always check to ensure that your manure management practices comply with federal and provincial regulations.*

2.6. Minimize pests to reduce exposure to livestock to the extent practical

Why Is This Important?

Pests may transmit a number of diseases to cattle through direct or indirect exposure including infected blood and other secretions by biting insects, through respiratory secretions and fecal contamination of infected pests, and external contamination of pests on feet/fur/feathers etc.

Some of these diseases can cause significant illness in cattle and the herd, and impact the industry regionally or nationally. Examples include Anaplasmosis, which is spread by ticks, and Bluetongue, which is spread by a midge or fly.

Suggested Risk Management Practices

Given the extensive nature of most beef operations, it can be difficult to prevent pests. However some of the following practices may help to control pest populations and in turn manage the risk of disease that they present.

a. Identify and assess risk

Where pests exist, producers should consult their veterinarian to determine if there are disease risks and how these might be managed.

Personnel should be aware of the disease risks that may arise from pest populations in their region, and monitor the herd for signs of disease.

b. Insect population control

Remove breeding areas for insects, where appropriate, e.g. standing water, decaying manure/bedding/feed, from the vicinity of feed storage areas, bunks and fences, and vegetation or weeds particularly from the vicinity of handling facilities.

Apply chemical controls for internal and external parasites, such as ear tags, sprays, pour-ons and oilers.

c. Rodent and bird population control

- Inspect hay, other feed storage areas and buildings regularly for evidence that they are being used for nesting.
- Remove breeding or nesting sites, and monitor for reappearance, e.g.:
  - use bait and traps near nesting and feeding areas;
  - put a "ceiling" of netting under rafters, to reduce nesting by birds; and
- Eliminate openings in buildings to prevent their entry, particularly to feed storage areas, e.g.:
  - hang heavy plastic strips in doorways to keep birds out.
- Position items off the ground to eliminate hiding places and facilitate inspection, baiting / trapping, particularly for feeders, equipment, feed bags and granaries.
- Trim vegetation and weeds near buildings and handling facilities.
- Alternate feeding times and locations (where possible) to disrupt patterns to which birds and other pests become accustomed.

d. Pest population control

- Remove potential sources of food for pests.
- Store animal feed in sealed metal containers.
- Remove loose feed from the vicinity of storage or feeding facilities.
- Remove deadstock from the area of live cattle immediately.
- Remove manure regularly and store away from live cattle.
- Keep garbage in sealed metal containers, and remove regularly.

2.7. Manage livestock to reduce exposure to wildlife to the extent practical

Why Is This Important?

Wildlife may harbour disease that can be spread to cattle through direct and/or indirect exposure. While the disease may be apparent in wildlife, they may also be latent carriers of disease that may affect cattle.

Some of these diseases may cause significant illness in cattle and the herd, and seriously impact the industry as a whole. For example, bovine Tuberculosis and Brucellosis reside in wildlife and may be spread to cattle through shared winter feeding or other events. Other diseases carried by wildlife that may be spread to cattle include rabies and neospora.

Suggested Risk Management Practices

a. Identify and assess the risk

Preventing exposure to wildlife is not always possible, particularly in pastures. Where this is the case, producers should be aware of the disease risk that these populations present, and take appropriate steps to minimize it.

Consult your veterinarian or provincial Office of the Chief Veterinarian / Chief Veterinary Officer to determine the specific disease risks that may exist in wildlife in your particular area. Such diseases could include: BTB and/or Brucellosis in deer or elk, rabies in skunks, coyotes or wolves, and Neospora in dogs, coyotes or wolves. They may also have advice on effective biosecurity practices to address these risks, e.g. vaccines, etc.

b. Minimize the risk

Steps that may minimize the disease risk posed by wildlife include:

- Awareness of the disease risk in question: ensure personnel know the signs of disease in order to recognize it.
- Additional monitoring: observe cattle frequently for signs.
- Preventive measures: opportunities to reduce exposure and/or raise immunity, e.g.:
  - double fencing around feed storage, or
  - vaccination

2.8. Ensure facilities are maintained and clean

Why Is This Important?

The condition of facilities may reduce or restrict the application of biosecurity practices to effectively address disease risks. If their condition affects the ability to apply biosecurity practices, then facilities should be repaired to facilitate biosecurity or managed to mitigate the biosecurity risks.

Facilities that are not clean may also contribute to the spread of disease. Many pathogens can survive for weeks to months, protected from inactivation through desiccation, sunlight, and inadequate cleaning procedures by organic material (bedding, manure etc.). For example, a persistent transfer may arise from facilities that are repeatedly used to house or process cattle some of which are diseased.

Suggested Risk Management Practices

a. Identify and assess risk

Specific areas to be kept clean to avoid contamination and opportunities for cross infection include areas where cattle congregate (particularly highly susceptible animals) and areas where supplies / inputs are stored: calving areas; pens and corrals; feeding areas; feed storage area; water sources

and waterers; veterinary product storage area; storage areas for veterinary waste and used products; garbage storage areas.

b. Maintain facilities

Facilities should be clean and free of visible organic matter. Focus on production areas where above normal rates of illness have occurred, calving areas, and locations frequently accessed by staff or livestock.

Facilities should be maintained, in good working order. This helps good husbandry, and also helps to minimize animal stress.

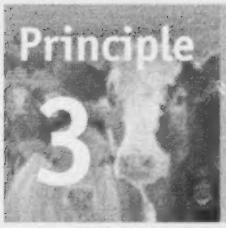
c. Remove garbage and other waste

Garbage and other waste should be removed and disposed of on a regular basis in accordance with local requirements.

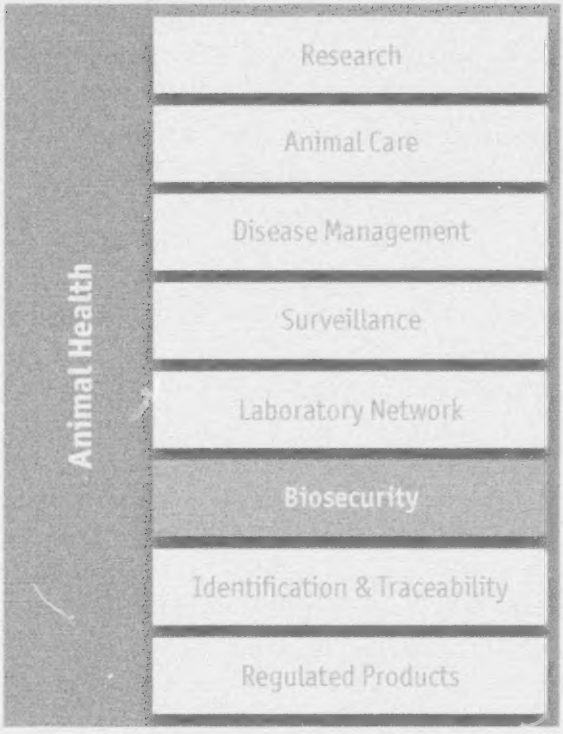
d. Storage and disposal of sharps

Veterinary waste involving sharps and other receptacles should be stored in a container separate from garbage and closed to the environment and animals. It can be removed and disposed of at specific locations within each province, including your veterinary clinic (if previous arrangements have been made with them).

See also Target Outcomes 2.5, 2.6, and 3.3.



Manage Animal Health Practices



Biosecurity and animal health are closely related, although the latter covers a broad range of factors affecting health, of which biosecurity is one. Other elements of an animal health system include such functions as surveillance, disease management or control, animal care, etc.

Good practices in any and all of these functional areas of animal health contribute to healthy animals and help to reduce disease and its impacts in cattle.

3.1 Establish and maintain a working relationship with a veterinarian

Why Is This Important?

Veterinarians are professionals who are trained to provide expertise in disease management and animal health. Veterinarians can provide a producer with specific advice if there is a relationship that provides a familiarity and understanding of the producer, the premises and the herd. With this relationship in place, veterinarians are better able to:

- Respond with quicker and more effective advice when problems arise;
- Identify gaps in herd health plans, and suggest solutions;
- Provide cost effective recommendations, such as the use of appropriate vaccines, tests and treatments;

- Make appropriate use of diagnostic testing facilities; and
- Recognize an unusual animal health situation and contact authorities if appropriate, as is required if a reportable disease is suspected.

A valid veterinary client-patient relationship is necessary before veterinarians may prescribe treatments, vaccines and other medical advice for a producer. Additional information on this can be obtained from your veterinarian or provincial veterinary association.

Suggested Risk Management Practices

Producers should regularly consult their veterinarian, (e.g. annually) to review biosecurity and herd health management practices. The veterinarian can provide advice on a range of animal health management issues, including:

- The disease / health risks for the herd and their prioritization
- Incoming animal practices, particularly the vaccinations, tests and treatments to be utilized
- Sanitation practices used for incoming people, vehicles, equipment and tools
- The Herd Health Plan
- Treatment of Typical Animal Health Situations specific to the operation
- Unusual Animal Disease Situations, including both a plan to identify and respond to these, as well as Elevated Biosecurity practices to adopt

3.2. Manage herd health according to a documented Herd Health Plan (HHP), prepared in consultation with a veterinarian

Why Is This Important?

A comprehensive herd health plan will contribute to the health of your cattle by helping to ensure that all aspects of their health needs are met. Since healthy animals are more resistant to disease, such a plan benefits the cattle and producers.

Documenting the practices being followed in a written Herd Health Plan, helps to ensure that it is:

- Communicated and understood by personnel,
- A training tool for new hires;
- Applied consistently; and
- Evaluated periodically to remain effective.

A Herd Health Plan addresses a broad range of factors occurring on the operation, including but not limited to: reproduction, genetics, nutrition, welfare, and biosecurity. Each of these contributes to animal health. For example and without addressing each factor, reproduction factors such as length of calving season, weaning weights and calving patterns impact the health of calves, cows and the herd as a whole.

Your veterinarian can help to make your Herd Health Plan more effective by identifying gaps and ensuring that all issues are addressed.

Suggested Risk Management Practices

a. Prepare a Herd Health Plan (HHP)

Prepare a written Herd Health Plan that documents the breadth of practices utilized on your operation to ensure herd health.

Information from your Health Log, all personnel engaged in herd health, and your veterinarian can all contribute to an effective Plan.

b. Review and revise

Review and revise the Herd Health Plan annually, or more frequently in the event of disease concerns, again with input from your veterinarian.

c. Keep records

Keep ongoing records to better manage herd health, specifically record vaccinations and treatments (health log, 4.5) and movements (movement log, 4.5). Records of parentage, reproductive history and source of animals are also useful. This information can be used to identify health risks, factors contributing to their occurrence and management options.

Maintain records on an individual animal basis. While many actions – movements, vaccinations and, in some cases, treatments -- will involve classes or groups of cattle, it is helpful if they can be linked to the individual animal and, ideally, to its unique CCIP identifier.

Considerable effort is required to record and maintain records on an individual animal basis. However the resulting information will help to identify and manage animal and herd health problems more quickly and accurately, reducing the length and severity of a disease process and unnecessary treatments, which, in turn, may reduce costs and increase profitability.

d. Compare results

Routinely measure and compare individual health records to overall herd health and productivity records, e.g.:

- length of calving period
- weaning weights
- rates of gain
- days to finish, etc.

Comparisons over time or between different groups contribute to an effective and profitable operation.

See also Target Outcomes 4.5.

3.3. Obtain water, feed, medications, and other inputs from safe and reliable sources, and manage or store these resources to ensure their ongoing safety and efficacy

Why Is This Important?

Water, feed, other inputs such as bedding, and even medications, may be contaminated and/or their quality and efficacy compromised at any point from their source to their consumption or use. Cattle that consume or use these contaminated, poor quality and/or ineffective inputs may be exposed to or at greater risk of disease.

Suggested Risk Management Practices

a. Identify and assess risk

Inputs to the herd that impact health include: water, feed, medications, supplements, nutrients, minerals, bedding and other inputs.

Be aware that quality inputs and diet contribute to a healthy herd. Where these inputs are purchased, and how they are handled, managed and stored may impact health.

b. Water quality

Monitor water systems regularly to provide water that is free of contamination from humans, livestock or wildlife. Contamination may involve manure, deadstock, chemicals and run-off after heavy precipitation or flooding.

Some specific practices to maintain the quality of the water provided include:

- Obtain water from the safest source possible.
  - municipal or deep wells generally offer greater protection from potential contamination than other sources.
- Ensure that an alternate source is available in the event of contamination or inadequate supply.
- Monitor surface water sources such as ponds or dugouts for signs of algae, access by wildlife or other sources of contamination.
- Fence waterways and surface water sources to exclude livestock. This may be effective in preventing fecal contamination and preserving aquatic fish habitat. It may also be required by federal and provincial regulations.
- Test water regularly for bacterial content, unless from municipal sources, in which case it should be tested at source. Tests should be annual, or more frequently if there is concern due to disease or heavy precipitation or flooding. Water testing can be performed by provincial and private laboratories.
- Raise or elevate waterers and troughs to reduce fecal contamination.

- Routinely check waterers and troughs, and maintain them free of manure and other organic matter, e.g. daily where possible. They should also be emptied and cleaned, where possible, between groups of cattle, or more frequently to remove organic material and biofilm, which is heavily populated by bacteria.

c. Feed quality

Obtain "off farm" feed, including grains, roughages, and bedding, from safe, known and reliable sources.

When purchasing mixed feeds, i.e. two or more grains, ensure that they are provided by a CFIA inspected facility. Mixed feeds can only be sold by a CFIA inspected facility.

To confirm that a provider is inspected by CFIA, they can be asked. However, there is no visible inspection certificate available from CFIA for them to display. Alternately, providers who are "FeedAssure" certified must also be CFIA inspected. FeedAssure is a feed safety management and certification program provided by the Animal Nutrition Association of Canada. A list of certified providers is available at http://www.feedassure.com/index.html .

Maintain a Feed Log, to record purchases and use of feed. Ready access to this information can help to identify and manage certain disease situations.

d. Storing inputs

Store and maintain feed and bedding free of contamination. Contamination may result from manure, run-off, mould and general quality factors. Feed and bedding can also be contaminated by saliva, urine, and respiratory secretions of infected animals and other wildlife. Practices that can help in this area include:

- Examine feed and bedding on arrival, and regularly at time of use, for contaminants such as mould, manure and overall quality. Do not use contaminated feed.
- Use feed and bedding on a "first in, first out" basis. Do not add new feed to older feed.
- Take samples of all feed batches. These can be held for testing in the event of a problem, or they can be tested on an ongoing basis for quality and safety. Hold samples for nine months or more.
- Keep feed and bedding storage areas free of animals, including cattle, wildlife and pests, as well as dogs and cats.
- Protect storage areas from weather and run-off to avoid spoilage and the possibility of mycotoxins and moulds.

e. Feeding practices

Good animal health is supported by good feeding practices, some of which include:

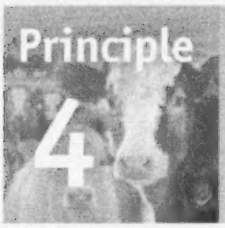
- Feed only what is required and clean up excess feed before adding new.
- Avoid contamination by: feeding in bunks / troughs / feeders, avoid walking in feed, scrape mud / manure from feeding areas, avoid cracks / holes in bunks, which may collect feed and moisture.

- Avoid animals laying on or soiling feed provided on the ground, by providing only the amount that can be consumed at that feeding and change locations frequently.
- Provide multiple feed sources and monitor densities to minimize congregation and competition.
- Ensure that there is good drainage from feeding areas.

f. Medications

Medications are used with the specific intent of improving animal health. Accordingly they should be stored and applied in a manner that ensures they can be effective.

- Purchase medications from licensed providers, and store as required. This includes such items as medicated feeds, vaccines, antibiotics, penicillin and other treatments.
- Obtain medicated feeds from CFIA licensed sources and use in accordance with the Compendium of Medicated Ingredient Brochures, or a veterinarian's prescription. This will help to ensure they effectively target their intended purpose.
- Store and administer as required by the manufacturer and listed on the product label, e.g. refrigeration, light, etc. For additional information see Schedule 4.
- Comply with the "use by" date. Destroy or dispose of all products remaining after that date. Note: the ""use by date" refers to unopened products. Many medications and vaccines, when reconstituted by a diluent or opened, must be used within a short time period, as indicated on the label.



Educate, Plan, Record

Education, planning and recording are fundamental to any management process. Accordingly, they are fundamental to biosecurity, which is essentially the management of animal disease risks.

4.1. Ensure that personnel understand how and why biosecurity is applied on their operation

Why Is This Important?

To be effective, biosecurity needs to be applied consistently. Consistent application cannot occur unless personnel are aware of what practices are to be applied and how.

An understanding of why biosecurity is being applied is also essential to ensure consistent and effective application. This can include farm level reasons, as well as those affecting the broader industry as a whole.

Suggested Risk Management Practices

a. Review Biosecurity Plan

Review the Biosecurity Plan for the operation with all personnel involved with livestock. Preparation of a Biosecurity Plan is detailed in the next section.

New personnel should be made familiar with the Plan prior to working with livestock. Personnel who do not work with livestock should be aware of the Plan and its purpose.

Ensure personnel understand what practices they are responsible for in the Biosecurity Plan, how to effectively carry out those practices, what records they must maintain and why these are important to the operation and to the industry. Depending upon the level of sophistication and size/type of operation, personnel may be asked to provide written confirmation of this.

Personnel (def'n): Includes staff, owners and operators and their family members.

b. Train personnel

The availability of formal training material for Biosecurity is limited, although this is expected to change in the future. However, material promoting the awareness of biosecurity is now increasingly available from a number of sources and can be helpful in educating personnel, e.g. the operation's Biosecurity Plan, provincial government animal health services, national and provincial commodity group associations, the CFIA, etc. (see Schedule 7).

Review and update the biosecurity plan on a regular basis including when there have been changes to farm practices and when new personnel have been hired.

See also Target Outcome 4.2.

Biosecurity efforts are only successful if everyone accessing animals is aware of the practices and knows their role.

4.2. Develop, document, and maintain a Biosecurity Plan that is specific to the needs of the operation

Why Is This Important?

Biosecurity calls for the application of practices that minimize animal disease risks on premises. Many of these practices are already in effect to some degree on most beef cattle operations. Additional practices may be identified in the course of reviewing this Manual to improve current on-farm biosecurity.

Documenting biosecurity practices in a Biosecurity Plan that is specific to a particular operation can provide the producer with a better understanding of what the risks are and how they are presently managed within that operation. A written Plan helps to ensure that the information it summarizes is:

- Communicated and understood by personnel
- A training tool for new hires
- Applied consistently
- Evaluated periodically to remain effective

Suggested Risk Management Practices

A Biosecurity Plan should address and document the practices that are in place or being implemented within the operation. These should include the following, samples of which are provided in the Schedules to this Manual:

- Incoming Animals Plan (1A.1 and Schedule 3)
- Entry Requirements (2.1 and Schedule 13)

- Deadstock Disposal Plan (2.5 and Schedule 8)
- Manure Management Plan (2.5 and Schedule 9)
- Unusual Disease Situation Plan (4.4 and Schedule 11)
- Record Keeping (4.5 and Schedules 12 - 15)

Preparation of these documents would constitute the Biosecurity Plan for the operation.

Involve personnel associated with livestock and with record keeping in preparing the Biosecurity Plan for your operation. These individuals can increase the effectiveness of the Plan and its application within your operation.

Use the Biosecurity Plan for your operation as a tool to train new and current personnel. This will help to ensure the consistent application of biosecurity practices by all staff. It will also help to keep the Plan current, as gaps or improvements are identified and addressed.

See Target Outcomes 1A.1, 2.5, 4.3, 4.4 and 4.5.

4.3. Ensure that personnel know how to respond to the range of animal health situations typical to the operation

Why Is This Important?

Some disease situations in beef cattle operations are encountered frequently and can re-occur regularly.

Anticipating what disease situations are typical to the operation, and planning an effective response to their occurrence, can ensure:

- quick identification;
- consistent application of effective treatment;
- appropriate monitoring;
- quicker return to health for the affected animals;
- consistently reduced impacts within the herd; and
- reduced likelihood of the disease spreading elsewhere in the industry.

Suggested Risk Management Practices

a. Identify and assess risk

Identify the disease situations that are commonly encountered on your operation and on operations in the surrounding community.

b. Plan the response

For each of these, identify the practices used in response. Consult your veterinarian to identify possible gaps and additional information.

For each situation identify the following:

- Triggers used to identify the disease or situation
- Treatment or response required, e.g. medication, isolation to sick pen
- Monitoring and follow-up required
- When to call your veterinarian

c. Know the signs

Ensure that personnel associated with cattle know the specific signs of diseases or situations that are common to the operation. These should be included in your Plan.

Some of the more general signs indicating a health related problem are noted below.

d. Document your practices

Document the practices regularly used for these situations in a Typical Disease Situation Plan.

e. Additional pointers

Practices that should also be used in these situations include:

- Handle healthy or highly susceptible animals first, and high-risk animals last or separately.
- Clean and disinfect equipment and veterinary tools prior to use on other animals.
- Personnel managing these animals should be different from those handling the herd, or wash and change clothing and footwear prior to returning to the herd.

Ensure that personnel associated with cattle know the general signs of poor health noted below:

- *Depression or lethargy, e.g. droopy ears or head, decreased activity, lying down and won't rise*
- *Laboured or abnormal breathing*
- *Loss of appetite, weight, and/or condition*
- *Not drinking or excessive drinking*
- *Lameness, e.g. swollen or favoured foot or leg, fracture, etc.*
- *Diarrhoea*
- *Erratic behaviour, e.g. circling, head pressing, abnormal posture*

4.4. Ensure that personnel know how to respond to an unusual animal health situation

Why Is This Important?

Recognizing the presence of an unusual illness in the herd and knowing how to respond can limit its impact upon the cattle that are immediately affected, the rest of the herd, possibly neighbouring herds and, in some cases, the industry as a whole.

Suggested Risk Management Practices

a. Identify and assess risk

Identify the potential disease situations of concern, and the practices to be used to identify and respond. These would include both specific diseases, as well as an unusual disease situation that might not be easily or immediately recognized.

Consult your veterinarian for input on the potential situations to be most aware of for your particular operation, and the practices to identify and implement.

These practices should address:

- Trigger Levels
- Initial Response
- Elevated Biosecurity

b. Define the triggers

Pre-determined triggers should be established in advance to identify when an unusual situation is occurring. Document these in the Trigger Levels section of the Unusual Disease Situation Plan for your premises. They might include:

- Occurrence of a disease not previously encountered within your operation
- A commonly encountered disease that is occurring with an unusually high level of sickness, death loss, or infectivity
- A commonly encountered disease that is not responding to typical treatments
- Any suspicion of a reportable, or Foreign Animal Disease
- Unexplained illness within a given period
- Unexplained death loss within a given period

c. Establish Initial Response practices

Establish Initial Response practices and document them in the Initial Response part of your Unusual Disease Situation Plan. These practices should include:

- Recognizing or observing the trigger
- Calling your veterinarian

- Notifying staff that an Unusual Disease Situation exists, with appropriate details
- Applying Elevated Biosecurity practices if required

d. Establish Elevated Biosecurity practices.

Establish Elevated Biosecurity practices in advance and document them in the Elevated Biosecurity section of your Unusual Disease Situation Plan. These should be used if you determine that the situation warrants it, or if advised to do so by your veterinarian. They are intended for temporary use only, pending further instruction from your veterinarian, or a provincial or CFIA inspector or veterinarian.

Elevated Biosecurity practices could include:

- Isolating sick animals
- Stopping movements of cattle and other livestock out of the Production Area and the Farmyard
- Stopping movements into the Production Area and Farmyard, e.g. visitors, equipment, vehicles and tools
- Advising all personnel to avoid direct or indirect contact with cattle and other livestock off the farm, including their own
- Delaying manure disposal (transport/spreading)
- Practices for typical animal health situations.

Establish the conditions under which you would return to normal practices. These might be on advice from your veterinarian, or a provincial or CFIA veterinary inspector.

e. Document

Document the Initial Response and Elevated Biosecurity practices to be used on your operation for the Unusual Disease Situation Plan.

All personnel involved should be aware of these practices and their responsibilities.

See Schedule 11 for a sample of what the Unusual Disease Situation Plan might look like, including Immediate Response and Elevated Biosecurity practices.

4.5. Maintain ongoing records for animal health management

Why Is This Important?

Information recorded at the time of an event is generally more accurate than information recalled from memory months or years after the event. Accurate information, from records such as these and elsewhere, can help to identify:

- the cause of disease;
- the means by which a disease is spread, between animals and between operations; and
- other potentially exposed animals or operations.

Suggested Risk Management Practices

a. Maintain records

The following records should be maintained on a consistent and ongoing basis:

- Visitor entry to the operation (Visitor Log)
- Movements of cattle into, from, or between Production Areas (Movement Log)
- The application of all treatments and disease prevention measures (Health Log)
- The off farm sale and purchase of all feeds (Feed Log)

b. Keep a Visitor Log

A Visitor Log should be used to record the entry of all visitors at the initial point of entry to the operation, regardless of whether this is to the Production Area or the Farmyard. A sample Visitor Log is shown in Schedule 12.

- Record the entry of all visitors, including service providers and professionals (e.g. inspectors and veterinarians), school tours, international visitors, etc.
- Records should include date, name and contact information. Additional information is also helpful, e.g. whether or not the visitors entered the Production Area and/or contacted cattle.
- Records are not required for personnel entering the Production Area.
- Records are not expected for trespassers and others entering without permission. It is understood that, because of the significant distance or size involved, some operations have no way of knowing if someone has entered the Production Area.
- Records can be obtained in a variety of ways. For instance, service personnel accessing remote Production Areas can provide the required information by phone or email.
- The Entry Requirements can be displayed prominently in the Visitor Log, to effectively remind all visitors of the requirements for them, their vehicles and their equipment. Prominently displaying the Sanitation Plan in this manner can help producers establish the risk level and appropriate biosecurity requirements for visitors and equipment.

c. Maintain a Movement Log

A Movement Log should be used to record cattle movements into, from or between Production Areas. A sample Movement Log is shown in Schedule 13.

- Record all movements, such as sales and purchases; to/from range, pasture, community pasture or other Production Area; to/from show or bull test; to/from a veterinary clinic; etc.
- Records should include date, animal identification, number of animals, nature of the event (purchase, sale, death, other movement), and to or from whom. Record individual identification linked to CCIS identifiers to the extent possible and where required by law, and contact information of agents, purchasers, sellers and/or transporters involved.

- Additional movements and information may also be recorded and may be helpful. This might include movements occurring within the Production Area, e.g. between pens (feedlot) or pastures (cow-calf) and to/from isolation or sick area or pen; transporter and contact information; and movements involving commingling with animals from other operations.

Visitor & Movement Logs are critical to tracking movements in the event of a disease outbreak, and can identify potentially exposed herds sooner. This can help reduce the impacts of a highly infectious disease.

d. Use a Health Log

A Health Log should be used to record all health treatments and disease prevention measures. A sample Health Log is shown in Schedule 14.

- Record all treatments, vaccinations and/or preventative measures, and other health related treatments.
- Records should include date, signs of disease or reason for treatment, the animal identification for the animal or group of animals involved, the treatment provided, including name, dose of medication and method of delivery, follow-up required, withdrawal date based upon withdrawal period added to current date, the signature of the individual involved, and anything else required.
- Data should be recorded on an individual identification basis for treatments and medications administered to sick animals, in a manner that can be readily linked to the CCIP identifier. Records may be recorded on a group lot basis, for activities applied to groups of cattle, e.g. processing of incoming animals.

e. Keep a Feed Log

A Feed Log should be used to record all off-farm feed movements. A sample Feed Log is shown in Schedule 15.

- Record all off-farm movements, purchases and sales of feed. It is helpful to include medicated feeds, vitamins and supplements.
- Records should include date, buyer and seller contact information, description of items purchased, whether or not a sample was taken and held, HACCP supplier batch numbers, name and level of medicated ingredient, and storage location.
- Samples should be taken at time of delivery, and held for 9 months or more.

Acknowledgements—Biosecurity Advisory Committees

Development of the Standard benefited from comments and direction provided by members of these Advisory and Management Groups:

- **Beef Biosecurity Advisory Group:**
  - Trevor Atchison, Manitoba Cattle Producers Association
  - Francois Bedard, Agriculture and Agri-Food Canada (AAFC)
  - Nathalie Côté, Fédération des producteurs de bovins du Québec
  - Dr. Glen Duizer, Manitoba Agriculture, Food and Rural Initiatives
  - Russ Evans, National Cattle Feeders' Association
  - Dan Ferguson, Ontario Cattlemen's Association / VBP
  - Terry Grajczyk, Verified Beef Production (VBP) Program
  - Dr. Murray Jelinski, Western College of Veterinary Medicine
  - Kathryn Ross, Saskatchewan Agriculture
- **Beef Technical Advisory Group:**
  - Dr. Calvin Booker, Feedlot Health Management Services
  - Dr. Paul Innes, Ontario Ministry of Agriculture, Food and Rural Affairs
  - Dr. Eugene Janzen, University of Calgary, Faculty of Veterinary Medicine
  - Dr. Jean-Pierre Vaillancourt, Université de Montréal, Faculté de Médecine Vétérinaire
- **Project Management Team:**
  - Dr. Lorne Jordan, Office of Animal Biosecurity (OAB), CFIA
  - Rob McNabb, Canadian Cattlemen's Association
  - Dr. Daniel Schwartz, OAB, CFIA
  - Dr. Archie Stewart, OAB, CFIA
  - Matt Taylor, Livestock Intelligence, Project Consultant
- **Other contributors from the CFIA's Office of Animal Biosecurity:**
  - Dr. Keith Campbell
  - Dr. Michel Illing
  - Dr. Cornelius Kiley
  - Dr. Patricia Pentney
  - Dr. Manon Racicot

In addition to those contributors, the development of the Standard has benefited from numerous interviews with producers, subject matter experts and stakeholder group representatives. Their interest, participation, and contribution are greatly appreciated.

Schedules

Schedule 1: List of Acronyms

AAFC	Agriculture and Agri-Food Canada
bTB	Bovine Tuberculosis
CBSA	Canada Border Services Agency
CFIA	Canadian Food Inspection Agency
CCA	Canadian Cattlemen's Association
CCIP	Canadian Cattle Identification Program
DIN	Drug Identification Number
FAD	Foreign Animal Disease
SRM	Specified Risk Material
OIE	World Organisation for Animal Health (Office International des Epizooties)

Land And Operations

Farm Yard, Home Quarter or Headquarters: The operation's home farm, ranch or land parcel[1].

Operation: Business entity: typically comprised of one or more parcels of land.

Production Area or Stock-Keeping Area (PA): The operation's corrals, pens, barns, and pastures where livestock are or may be kept[2].

Feed

Grain: Grain-based animal feed.

Roughage/Forage: Grass/legume-based animal feed.

Equipment

Equipment: Farm machinery and implements, livestock conveyances, excluding vehicles for personal and business transportation.

Vehicles: Intended for personal and business transportation (not livestock transportation).

Other

Commingled Animals: Animals having contact with animals of other species, or from other operations.

Compost: The active process (piled, windrowed, turned, etc.) of controlled biological decomposition of bedding/manure/waste to eliminate disease and produce a mature soil amendment

Provision of compost for retail packaging and sales typically meets this definition. Piled or stored manure does not.

High-Risk Animals: Animals with an unknown or greater risk of transmitting a disease than others, including those of unknown health status, of a different species, not part of the herd, returning after being away from the herd, or sick or recently recovered.

Highly Susceptible Animals: Animals that are at greater risk of infection following disease exposure than others, including calves, young stock, sick, stressed, or recently recovered, or lacking immunity or resistance.

Incoming Animals: Animals that have been purchased/acquired for introduction into the resident herd or animals returning from a brief absence from the herd (exhibition, show, etc.)

1 Comparable context to Controlled Access Zone
2 Comparable context to Restricted Access Zone

Personnel: Includes staff, owners and operators and their family members.

Pests: Includes vermin, such as mice, rats, etc., insects, and birds.

Visitors: Includes all people entering the Farmyard (home quarter or headquarters) or Production Area with permission, e.g. service providers and professionals, school tours, international visitors, etc.; excludes personnel.

Wildlife: Includes game and non-game animals such as deer, elk, etc., fur-bearing animals such as skunk, beaver, etc., predators such as coyotes, wolves, etc., and birds.

Biosecurity Terminology

Biosecurity: Those practices that prevent or mitigate disease from entering, spreading within or being released from operations that may contain livestock.

Biosecurity zones: An area where biosecurity procedures are practiced/monitored to reduce the transmission of disease, e.g. Controlled Zone and/or Restricted Access Zone.

Cleaning: A practice that removes accumulated organic matter and dirt. May be followed by disinfection.

Controlled Access: Access is managed by way of clear entry/exit points in a visually identifiable perimeter demarcation. Might include gates, Texas gates or driveways in fences or other visually identifiable perimeter demarcations.

Controlled Access Zones (CAZ): An area where access is controlled or managed, constituting the home quarter or headquarters, accessible through a controlled access point.

Comparable context to the Home Quarter or Headquarters of a beef cattle operation.

Direct Contact: Close physical contact between animals (nose-to-nose, social interaction, breeding, etc.)

Disease: A broadly applied term encompassing the introduction, transmission, spread and / or existence of a range of pests, pathogens and other disease-causing agents, including toxins. The emphasis of this Standard is disease.

Disinfection: A practice that inactivates or destroys disease organisms; must be preceded by cleaning

Fomite: Any inanimate object or substance on which disease may be carried or transferred. May include but is not limited to: vehicles, equipment, tools (veterinary and other), clothing or shoes, etc.

Indirect Contact: Common contact between animals through a person, piece of equipment, surface, insect, etc.

Practice: Generally practiced procedure that is followed by the operator(s), and not necessarily documented or detailed to the extent of a protocol.

Protocol: Defined and documented procedure to be followed, detailing the steps to be taken to meet an objective.

Restricted Access Zones (RAZ): Area or physical location where livestock are or may be held and where additional procedures to reduce disease transmission are applied, including further restrictions on the movements of people and equipment.

Typically accessed through a controlled access point, from the Controlled Access Zone (CAZ) and contained within the CAZ.

Comparable in context to the Production Area of a beef cattle operation, although access often cannot be controlled and location is often outside the Home Quarter and Headquarters.

Sanitation: An overarching set of practices that reduce the presence of organic material/debris and reduce the presence, survivability and infectivity of disease agents.

Secured Access: Access through controlled access points is prevented, other than from deliberate non-compliance. This might include gates or doors in fences or buildings, etc. in visually identifiable perimeter demarcations capable of restricting livestock movements and human movements other than deliberate non-compliance.

Zoonosis: These are diseases that can be transmitted from animals to humans. They may be endemic or reportable, and include bTB, Brucellosis, Rabies, and Ringworm, all of which occur in cattle.

Schedule 3: Incoming Animals Plan (Sample)

Operation Name: _____

☐ Incoming Animals are:

• Limited to the following types (circle):	• Limited to the following types of sources:
- Virgin bulls - Bred cows - Cow-calf pairs - Backgrounding calves - Finishing calves	- Direct from ranch - Bull sale / bull test

☐ Introduced from a limited number of sources per year: _____ different sources

- Introduced only a limited number of times per year: _____ times per year

☐ Risk exposure is evaluated to determine whether normal segregation and vaccination / test / treatment protocol is sufficient:

- Yes / No
- individual animal and herd information is obtained from seller
- Veterinarian consulted when necessary (positive laboratory results, unfamiliar medications and treatments etc.)

☐ Observed on arrival for obvious signs of illness / lameness

- Treat as required
- Transition diet provided (high fibre / low concentrate)

☐ Segregated on arrival: 14 days, twice daily monitoring

☐ Vaccinated*: Yes / No

*day after arrival but within 48 hours for:

Diseases Vaccinated Against	Name and Manufacturer of Vaccine Administered

☐ Tested*: Yes / No, for:

Diseases tested For	Herd / animal test results

☐ Treated*: Yes / No

Procedure	Medication Administered	Procedure	Method Used
Worming (Internal Parasites)		Dehorning	
External Parasites		Castration	
Implant		Other	
Other Treatments			

☐ Identification Verified: Yes / No
- CCIS tag presence verified, replacement tag applied if necessary

☐ Individually identified: Yes / No
- CCIS tag recorded for each incoming animal

☐ Monitoring:
☐ Daily ☐ 2xDaily By _____

☐ Specific items to watch for: _____

☐ Release into herd
- Animals examined at the end of isolation / segregation period and found to be free of clinical disease

Schedule 4: Safe Administration and Delivery of Veterinary Drugs and Vaccines

Veterinary drugs and vaccines are currently regulated by two different agencies in Canada. Veterinary drugs are regulated by Health Canada's Veterinary Drug Directorate, while veterinary biologics (vaccines) are controlled by the CFIA's Canadian Centre of Veterinary Biologics.

Veterinary drugs approved for use in Canada will have a Drug Identification Number (DIN) and only these products should be used.

Veterinary drugs and vaccines should be used as directed by a veterinarian and stored in accordance with the manufacturer's instructions to ensure that they are effective.

There are a number of different delivery methods for drugs, depending upon the medication, the formulation, the disease and the species and number of animal(s) in question. These include:

- Oral
  - Bolus
  - Feed Additive
  - Water

- Injectable / Implant
  - Subcutaneous
  - Intradermal
  - Intramuscular
  - Intravenous
- Topical, e.g. pour-on or spot-on
- Intranasal

Do not administer drugs by routes other than those recommended by the manufacturer or your veterinarian, as there can be severe adverse reactions.

Veterinary vaccines for beef cattle are administered by an intramuscular or subcutaneous route.

Appropriate needle use is also important. Individual needles should be used when treating animals for health concerns. Re-use of needles is a concern for a number of reasons, including disease transfer, needle breakage and resulting food safety concerns.

Schedule 5: Cleaning / Washing / Disinfection

Different terms are used in the Manual to define an object's level of sanitation:

- **"Cleaning"** is the physical removal of soiled material. This may include using a wire brush to scrape manure off boots, etc. This removes a significant amount of the disease-causing organisms.
- **"Washing" is "cleaning"**, followed by scrubbing or spraying with water and a detergent, followed by rinsing with clean water. To complete the process, washed items must be thoroughly dried (preferably in the sun) before reuse.
- **"Disinfection"** is treating the object with a chemical substance that will kill all microorganisms. Depending on the object, disinfection can also be achieved using boiling water (e.g. particularly veterinary equipment). Disinfection is not effective without prior "cleaning."

The Cleaning process consists of 5 Steps

1. **Dry cleaning** – The most important step of the cleaning process to remove all visible manure, bedding and other organic material by scraping, brushing, and wiping down surfaces, etc. During winter, this may be limited to scraping up loose material before it freezes, A thorough dry cleaning simplifies and facilitates the wet cleaning process and is necessary prior to the disinfection process.
2. **Wet Cleaning** – Using water and a detergent, soak surfaces thoroughly. Soak the dirtiest surfaces first, however, move from clean to dirty when spraying and scrubbing to prevent unnecessary contamination of the cleaner areas. Rinse the surfaces with water to remove traces of detergent and organic material
3. **Drying** – Allowing the surfaces to dry aides in reducing the survivability of pathogens and ensures that the disinfectant applied during the disinfection step remains at the proper concentration.
4. **Disinfection** – Disinfect surfaces. Use a broad-spectrum registered (Health Canada approved) disinfectant. Registered disinfectants will be identifiable by their Drug Identification Number on the label (DIN). Appropriate application is important – follow the manufacturer's directions. The surfaces

that are being disinfected (in the case of disinfectants applied as a solution) need to remain wet during the required contact time. Generally, apply disinfectants to surfaces to the point that it is running off. Most disinfectants will need to be rinsed off following the required contact time, follow the recommendations on the label.

Note: There is little value in disinfecting surfaces if the dry and wet cleaning have not been completed. The mud, manure and bedding will prevent adequate disinfection by protecting surfaces and inactivating many disinfectants.

5. **Drying** – Ideally, surfaces that are disinfected should be allowed to dry. However, this may be impractical during certain times of the year or when operational demands prevent the delay

Schedule 6: Shipping Record (Sample)

Date	
Herd of Origin	Business Name / Contact Information / PID
Shipper	Name / Contact Information of transporter
Destination Herd	Business Name / Contact information / PID
Description of animals transferred	Number / class / age
Individual identification number	☐ Single Animal CCIS number ☐ Group Listing attached
Additional identification information	Brand / other
Vaccination record (group)	Date / product
Treatment record of animals shipped (individual)	Date / product
Diseases or Health Issues in Herd of Origin in past 12 months:	

Federal & Provincial Government Contacts

Canadian Food Inspection Agency (CFIA) Contacts
National: 1-800-442-2342; 613-225-2342
http://www.inspection.gc.ca/english/anima/vet/vete.shtml
http://www.inspection.gc.ca/francais/anima/vet/vetf.shtml

CFIA Area Offices
Atlantic Area 506-851-7400
Quebec 514-283-8888
Ontario 519-837-9400
Western Area 403-292-4301

Access to Regional CFIA Office Contacts:
http://inspection.gc.ca/english/directory/offbure.shtml
http://www.inspection.gc.ca/francais/directory/offburf.shtml

	Department of Agriculture Contacts		Office of the Chief Provincial Veterinarian / Chief Veterinary Officer
	Website	Telephone/email	Website / Telephone
National (Agriculture and Agri-Food Canada)	http://www.agr.gc.ca	613-773-1000 info@agr.gc.ca	
Newfoundland	http://www.gov.nf.ca/services/agriculture.stm	709-637-2591 info@gov.nl.ca	http://www.nr.gov.nl.ca/nr/department/contact/agrifoods/ah_contacts.html#cvo 709-729-6879
Prince Edward Island	http://www.gov.pe.ca/agriculture	902-368-4145 866-PEI-FARM (866-734-3276) peiextension@gov.pe.ca	
Nova Scotia	http://www.gov.ns.ca/agri/	902-424-4560	902-893-3491
New Brunswick	http://www.gnb.ca/0027/Agr/index-e.asp	506-453-2666 DAAF-MAAP@gnb.ca	506-453-5443
Quebec	http://www.mapaq.gouv.qc.ca	418-380-2140 866-822-2140	418-380-2100, ext. 3134
Ontario	http://www.omafra.gov.on.ca	519-826-3100 877-424-1300 ag.info.omafra@ontario.ca	ag.info.omafra@ontario.ca http://www.omafra.gov.on.ca/english/food/inspection/ocvo_index.html 519-826-4301
Manitoba	http://www.gov.mb.ca/agriculture	866-Manitoba	http://www.gov.mb.ca/agriculture/foodsafety/chiefvo/cfs12s00.html 204-945-6750

Saskatchewan	http://www.agriculture.gov.sk.ca	866-457-2377 E-mail: aginfo@gov.sk.ca	306-787-5547
Alberta	http://www.agric.gov.ab.ca/app21/rtw/index.jsp	310-FARM (3276)	http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/cpv4264?opendocument 780-427-3448
British Columbia	http://www.agf.gov.bc.ca	250-387 5121 AGF.Webmaster@gov.bc.ca	800-661-9903 604-556-3003

National and Provincial Producer Association Contacts

		Website	Telephone	Email
National	Canadian Cattlemen's Association	http://www.cattle.ca	403-275-8558 (Calgary) 613-233-9375 (Ottawa)	feedback@cattle.ca
	National Cattle Feeders Association	http://nationalcattlefeeders.ca	403-769-1519	info@nationalcattlefeeders.ca
Newfoundland and Labrador	Newfoundland and Labrador Federation of Agriculture	http://www.nlfa.ca	709-747-1759	info@nlfa.ca
Prince Edward Island	Prince Edward Island Cattle Producers	http://www.peicattleproducers.com	902-368-2229	cattlemen@eastlink.ca
Nova Scotia	Nova Scotia Cattle Producers	http://www.nscattle.ca	902-893-7455	office@nscattle.ca
New Brunswick	New Brunswick Cattle Producers		506-458-8534	
Quebec	Fédération des producteurs de bovins du Québec	www.bovin.qc.ca	450-679-0540, ext. 8287	
Ontario	Ontario Cattlemen's Association	http://www.cattle.guelph.on.ca	519-824-0334	
	The Ontario Cattle Feeders' Association	http://ontariocornfedbeef.com	519-539-6623	
Manitoba	Manitoba Beef Producers	http://www.mcpa.net	800-772-0458 204-772-4542	info@mbbeef.ca

Saskatchewan	Saskatchewan Cattlemen's Association	http://www.saskbeef.com	306-665-2333 877-908-2333	info@saskbeef.com
	Saskatchewan Cattle Feeders Association	http://www.saskcattle.com/joomla	306-382-2333	
Alberta	Alberta Beef Producers	http://www.albertabeef.org	403-275-4400	abpfeedback@albertabeef.org
	Alberta Cattle Feeders Association	http://www.cattlefeeders.ca	403-250-2509 800-363-8598	
British Columbia	B.C. Cattlemen's Association	http://www.cattlemen.bc.ca	250- 573-3611	info@cattlemen.bc.ca
	BC Association of Cattle Feeders	http://www.bcacf.com/	877-884 4391	

Additional Information - Biosecurity / Animal Health / Industry

Organization	Website	Page title
CFIA	http://www.inspection.gc.ca/animals/terrestrial-animals/biosecurity/eng/1299868055616/1320534707863	Animal biosecurity website
	http://www.inspection.gc.ca/english/anima/disemala/rep/repe.shtml	Federally Reportable Diseases in Canada - 2012
	http://www.inspection.gc.ca/english/anima/biosec/anibioplane.shtml	National Farm-Level Biosecurity Planning Guide Proactive Management of Animal Resources
Ontario Ministry of Agriculture, Food, and Rural Affairs	http://www.omafra.gov.on.ca/english/livestock/beef/health.html	Beef - Health Management and Biosecurity
	http://www.omafra.gov.on.ca/english/livestock/vet/facts/09-079.htm	Biosecurity: Health Protection and Sanitation Strategies for Cattle and General Guidelines for Other Livestock
Government of Alberta	http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/cpv10708	Biosecurity in Alberta
Vaccine and Infectious Disease Organization (VIDO)	http://www.vido.org	Home page
VIDO Beef InfoNet	http://www.vido.org/beefinfonet/	Beef InfoNet Home Page

Other Industry Contacts

Organization	Contact
Animal Nutrition Association of Canada	Tel: 613.241.6421 www.anacan.org info@anacan.org http://www.feedassure.com/facilities.html (listing of FeedAssure™ Certified Facilities)
Canadian Cattle Identification Agency (CCIA)	877-909-2333 (BEEF) http://www.canadaid.com
The Canadian Animal Health Coalition	519-829-2242 http://www.animalhealth.ca/Default.aspx
Beef InfoXchange System (BIXS)	403-275-8558 http://bixs.cattle.ca
Verified Beef Production Program (VBP)	403-275-8558 www.verifiedbeef.org

Schedule 8: Deadstock Disposal Plan (Sample)

Producers should confirm that their deadstock management practices comply with federal and provincial regulations.

Operation Name: _____

Province: _____	Permitted Y / N	Available Y / N	Comments
Burial			
Incineration			
Rendering			
Composting			
Natural Disposal			

My preferred means of disposal is:

Where:
How:
Not permitted if:

My alternate means of disposal is:

Where:
How:
Not permitted if:

My deadstock storage, if available, is:

Where:
How:
Not permitted if:

Potential Scenarios:

Disposal generally achievable within 48 hours	Y / N Comment
Scenario 1: Range / Community Pasture	
Conditions Required for Preferred Means:	
Alternate means required if:	
Scenario 2: Pasture / Feedlot	
Conditions Required for Preferred Means:	
Alternate means required if:	
Scenario 3: Animal Euthanized with veterinary drugs	
Conditions Required for Preferred Means:	
Alternate means required if:	
Scenario 4: Reportable Disease	
Conditions Required for Preferred Means:	
Alternate means required if:	

Additional Biosecurity measures used:

☐ Separate line of equipment / tools
☐ Alternate approach utilized
☐ Clothing changed / washed prior to other use
☐ Other

Schedule 9: Manure Management Plan (Sample)

Producers should confirm that their manure management practices comply with provincial federal and provincial regulations.

Producers should confirm that their manure management practices comply with provincial federal and provincial regulations.

Development of manure management plans may be complex and subject to federal and provincial government regulatory requirements. Producers should confirm that their plan complies with federal and provincial regulations.

Provincial websites are also excellent sources of additional information.

Composting manure prior to disposal has a number of benefits:

- Inactivates and/or reduces the infectivity of many pathogens and destroys many weed seeds if proper composting procedures are followed
- Significantly reduces the volume and weight of manure requiring disposal
- Stores nutrients as stable organic compounds that release nutrients slowly into the soil

Operation: _____

Frequency of removal, e.g. annually, monthly, weekly	
Storage location	
Storage period prior to sale / further use, e.g. months, years	
Planned use, e.g. sale, spread, etc.	
Withholding period (time until grazing or harvest permitted), months	
Withholding period (time until grazing or harvest permitted), months	

(Manure application log Courtesy of the Canadian Horticulture Council)

Additional biosecurity considerations include:

- Sanitation of equipment used for manure management
- Access of livestock to the location of the manure storage
- Land use where manure is spread (crop versus pasture versus nursery etc.)

Schedule 10: Herd Health Plan (Sample)

Operation: _____

Veterinary Practitioner (Contact Information):

Names (personal & business)	
Names (office & cell)	
Email	
Location	

Nutrition: Feed and mineral plan based on seasonality and age and/or gender class

	Group 1: _____	Group 2: _____	Group 3: _____	Group 4: _____
Winter				
Spring				
Summer				
Fall				

Reproduction Objectives or Plan

Calving period	# Days:	Start date:	Stop date:	Location:
Breedings	Total:	Last calf:	Mature:	1st calf:
Weaning weights	Avg	Cows	Heifers	
Calving pattern	% born in 21 days	Cows	Heifers	

Genetics Objectives or Plan

Weaning weight	
Calving ease	

Primary Diseases **being** managed / prevented on an ongoing basis:

Planned procedures (date):

Procedure	Date	Procedure	Date
Brand		Dehorn	
Identify		Pregnancy check	
Vaccinate			

Vaccination / Immunization Plan

Timing	Disease Issue	Product	Delivery Method	Target Group (age and/or gender class)

Welfare: per code of practice (see http://www.nfacc.ca/codes-of-practice/beef-cattle)

Herd Health Calendar: enter dates – include start / stop dates – of above activities

January	February
March	April
May	June
July	August
September	October
November	December

Schedule 11: Unusual Disease Situation Plan (Sample)

Operation Name:

Initial Response

Trigger:

☐ Death Loss exceeds normal acceptable level;

☐ Disease not previously encountered;

☐ Possible reportable / notifiable disease;

☐ Typical sickness exceeds normal acceptable level;

☐ Typical disease with abnormal severity or non-responsive to treatment;

☐ Other _____

Notification:

☐ Private Veterinarian called
☐ CFIA District Veterinarian called (suspect reportable disease)
☐ Provincial Chief Veterinarian / Chief Veterinary Officer
☐ Industry notification (depending on suspected disease) – neighbouring livestock producers, breed association, CCA
☐ Suppliers (feed, etc.)

Veterinary Advice:

☐ Isolate sick animals
☐ Stop other movements (feed delivery, manure spreading etc.)
☐ Submit samples for diagnosis
☐ Stop stock movements on / off
☐ Staff avoid other animal contact
☐ Other

Staff notified of unusual disease situation: ☐

Elevated Biosecurity

Elevated Biosecurity Required: ☐ Instructed by Vet ☐ Self-determined ☐ Personnel advised

Includes: ☐ Isolate sick ☐ stop stock movements ☐ Stop other movements
☐ staff to avoid other animal contact
☐ Cleaning and disinfection

Stand Down

Return to normal practices:

☐ Recommended by Vet (Date / Signature) _____

☐ Other _____

Schedule 12: Visitor Log (Sample)

FOR BIOSECURITY PURPOSES, ALL VISITOR ENTRIES ARE RECORDED

Entry is recorded at the earliest point of entering the operation.
Visitors include all people entering with permission,
e.g. service providers and professionals, school tours, international visitors, etc.
Excludes personnel (owner/operators, staff, and family etc.)

Date	Name	Company	Contact Number	License Plate No.	Comments	Previous livestock / farm contact (Y / N)	Entered Production Area (Y / N)	Animal Contact (Y / N)

Schedule 13: Entry Requirements: For People, Vehicles, Equipment and Tools

Risk Category	*Criteria* Description and Comments **Biosecurity Requirements**
Low-risk	*Within the past 14 days has: No livestock contact; One or no visits to livestock operations* • Come from urban areas and/or do not contact livestock. • These visitors represent a very low risk of introducing disease. **No requirements, other than to record all visits.**

Moderate-risk	*Neighbouring (fence-line) livestock operator; or within the past 14 days: has livestock contact at one operation, or has visited more than one livestock operation.* • Travel from or are transported from farm to farm, but do not enter the Production Area or come into direct contact with livestock or manure. • These visitors represent a moderate risk of introducing disease. • Example: Rig service personnel, although they may be entering the Production Area, are rarely coming into contact with livestock or manure. **Minimize access to Production Area.** **Prevent all but essential contact with cattle.** **Before access is permitted, ensure clean footwear / clothing / tires / surfaces, all visibly clean of organic matter.**
High-risk	*Other livestock operator (including employee); or within the past 14 days has livestock contacts at multiple operations; or Persons From Other Countries where reportable diseases are a concern; or handles sick or segregation animals at this or other operations.* • Travel from or are transported from farm to farm, entering the Production Area and having direct contact with livestock or manure. Producers must apply biosecurity practices relative to these visitors. • These visitors represent a high risk of introducing disease. • Example: Veterinary and Livestock Inspection professionals who enter the Production Area and generally come into direct contact with livestock and manure. • Example: Custom manure cleaning operators and equipment that may transport manure from one Production Area to another. • Example: Personnel who work with livestock at their own or another operation. • Example: Personnel working with animals in the Segregation or Sick facility. **Prevent all but essential access to the Production Area or contact with cattle.** **Before access or contact is permitted, ensure:** • **tires / surfaces are visibly clean of organic matter;** • **preferably, the person wears clothing & footwear dedicated to the operation, or wears fresh coveralls or clean clothing and disinfects footwear;** • **disinfect off-farm equipment or tools contacting livestock, or provide site specific tools.**

Schedule 14: Animal Movement Log (Sample)

Purchased – Died – Sold / Shipped – Moved Record: Year _____

Date	Animal ID	Pen ID	CCIA / ATQ Number	Number of Head	Purchased	Died	Sold or Shipped	WD Check (initial)	Moved	To / From Whom	Comments

Schedule 15: Health Log (Sample)

Individual Animal Health Treatments Year _____

Date(s)	Animal ID	Reason for Treatment	Product Used	Dose and Route	Withdrawal Times	Died	Comments	Initials

Shipping WD Check		Shipping WD Check		Shipping WD Check		Shipping WD Check	
Date	Initials	Date	Initials	Date	Initials	Date	Initials

SC = subcutaneous (under skin)
IM = intramuscular
O = oral
T = topical
1 ml = 1 cc
Conduct visual check for needles after each injection
WD = withdrawal time

Adapted with permission, from VBP Producer Manual

Health Log (Sample)

Pen or Herd Animal Health Treatments: Year _____

Date: _____	Pen or Group or Herd: _____	Initials: _____
Animal Health Products:		
Vaccination: _____	Dose and Route: _____	Withdrawal Time: _____
Vaccination: _____	Dose and Route: _____	Withdrawal Time: _____
Parasiticide: _____	Dose and Route: _____	Withdrawal Time: _____
Antibiotic: _____	Dose and Route: _____	Withdrawal Time: _____
Other: _____	Dose and Route: _____	Withdrawal Time: _____
Implant: _____	Other Procedures: € Castration € Dehorning	€ Other: _____

Shipping WD Check (d nitials): 1. _____ 2. _____

Comments:

Animal ID	Animal ID	Animal ID	Animal ID	Animal ID

Adapted with permission, from VBP Producer Manual

Schedule 16: Feed Log (Sample)

Record incoming feed, whether produced on the farm or purchased.

Take and record samples from all non-HACCP feed suppliers. Hold samples at least nine months after the date of sampling noted here.

Written assurance from Non-HACCP suppliers of processed feed will be filed with this record.

Incoming Feed		Feed Supplier Information			Medicated Feed Information			Storage
			Purchased or Commercially Processed Feed					
Date (D/M/Y)	Feed Name	Produced Off Farm? If Yes, Sample Required	HACCP Supplier Batch Number	Non-HACCP Supplier Date Of Sampling (d/m/y)	Name of Medication Ingredient (from feed label)	Ingredient Quantity (mg. of medication / kg of feed, from feed label)	Withdrawal Date (from feed label)	Storage Location (bin No. or location)

Adapted with permission, from VBP Manual